



WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Data Appendix (Appendix D)

Washington State Dioxin Source Assessment

July 1998

Publication No. 98-321

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W A S H I N G T O N S T A T E
D E P A R T M E N T O F
E C O L O G Y

Data Appendix (Appendix D)

Washington State Dioxin Source Assessment

by
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Appendix D

Dioxin TEQ Load Calculations

This is the data appendix for Publication No. 98-320,
Washington State Dioxin Source Assessment.

Key to Abbreviations

Data Qualifiers

| | |
|------|--|
| Q | Data Qualifier |
| U | Analyte was not detected at or above the reported limit (less than the given detection limit). |
| UJ | Analyte was not detected at or above the reported estimated result (estimated detection limit) |
| J | Analyte was positively identified. The associated numerical result is an estimate. |
| B | Analyte was also found in the analytical method blank indicating the sample may have been contaminated (these were treated as "U's for this report). |
| EMPC | Estimated Maximum Possible Concentration (these were converted to "J's for this report). |
| E | Estimated (these were treated as "J's for this report). |
| D | This compound was detected in the method, field, and trip blank (these were treated as "V's for this report). |

Other Abbreviations

| | |
|-----------|---|
| DL | Detection Limit |
| <DL=0 | If the reported value is less than the detection limit, the value is assumed to be 0. |
| <DL=1/2DL | If the reported value is less than the detection limit, the value is assumed to be one-half of the detection limit. |
| <DL=DL | If the reported value is less than the detection limit, the value is assumed to be the detection limit. |
| TEQ | Toxic Equivalent |
| TEF | Toxic Equivalent Factor |
| ng | nanogram (10^{-9} grams) |
| pg | picograms (10^{-12} grams) |
| dscf | dry standard cubic foot |
| dscm | dry standard cubic meter |
| ppq | parts per quadrillion |
| MGD | million gallons/day |

Ash Grove Cement

| Facility | Ash Grove Cement | | | | | | | | | |
|--|---|--------------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|-----------|---------|---------|
| Sample Name | Cement Kiln, baghouse Quanterra Environmental Services | | | | | | | | | |
| Lab | | | | | | | | | | |
| Sample ID | | | | | | | | | | |
| Date | | | | | | | | | | |
| Congener | TEF | Run 1 8/5/96 | Run 2 8/5/96 | Run 3 8/5/96 | | | | | | |
| | | Value (ng/dscm) | TEQ (ng/dscm) <DL= | Value (ng/dscm) | TEQ (ng/dscm) <DL= | Value (ng/dscm) | TEQ (ng/dscm) <DL= | | | |
| | | | 0 DL | | 0 DL | | 0 DL | | | |
| 2,3,7,8-TCDD | 1 | 0.00159 U | 0.00000 | 0.00159 | 0.00212 U | 0.00000 | 0.00212 | 0.00163 U | 0.00000 | 0.00163 |
| 1,2,3,7,8-PCDD | 0.5 | 0.00435 U | 0.00000 | 0.00218 | 0.00505 U | 0.00000 | 0.00253 | 0.00472 U | 0.00000 | 0.00236 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.00304 U | 0.00000 | 0.00030 | 0.00374 U | 0.00000 | 0.00037 | 0.00325 U | 0.00000 | 0.00033 |
| 1,2,3,6,7,8-HxCDD | 0.1 | (NA) | | | (NA) | | | (NA) | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.00290 U | 0.00000 | 0.00029 | 0.00374 U | 0.00000 | 0.00037 | 0.00325 U | 0.00000 | 0.00033 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.00290 U | 0.00000 | 0.00003 | 0.00260 U | 0.00000 | 0.00003 | 0.00472 U | 0.00000 | 0.00005 |
| OCDD | 0.001 | 0.00478 U | 0.00000 | 0.00000 | 0.00505 U | 0.00000 | 0.00001 | 0.00862 U | 0.00000 | 0.00001 |
| 2,3,7,8-TCDF | 0.1 | 0.00139 U | 0.00000 | 0.00014 | 0.00156 U | 0.00000 | 0.00016 | 0.00107 U | 0.00000 | 0.00011 |
| 1,2,3,7,8-PCDF | 0.05 | 0.00261 U | 0.00000 | 0.00013 | 0.00293 U | 0.00000 | 0.00015 | 0.00195 U | 0.00000 | 0.00010 |
| 2,3,4,7,8-PCDF | 0.5 | 0.00232 U | 0.00000 | 0.00116 | 0.00260 U | 0.00000 | 0.00130 | 0.00189 U | 0.00000 | 0.00095 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.00106 U | 0.00000 | 0.00011 | 0.00119 U | 0.00000 | 0.00012 | 0.00104 U | 0.00000 | 0.00010 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.00104 U | 0.00000 | 0.00010 | 0.00117 U | 0.00000 | 0.00012 | 0.00104 U | 0.00000 | 0.00010 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.00145 U | 0.00000 | 0.00015 | 0.00163 U | 0.00000 | 0.00016 | 0.00145 U | 0.00000 | 0.00015 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.00203 U | 0.00000 | 0.00020 | 0.00228 U | 0.00000 | 0.00023 | 0.00195 U | 0.00000 | 0.00020 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.00106 U | 0.00000 | 0.00001 | 0.00119 U | 0.00000 | 0.00001 | 0.00314 U | 0.00000 | 0.00003 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 0.00075 U | 0.00000 | 0.00001 | 0.00085 U | 0.00000 | 0.00001 | 0.00405 U | 0.00000 | 0.00004 |
| OCDF | 0.001 | 0.00246 U | 0.00000 | 0.00000 | 0.00277 U | 0.00000 | 0.00000 | 0.00374 U | 0.00000 | 0.00000 |
| EPA TEQ (ng/kg) | | | 0.00000 | 0.00640 | | 0.00000 | 0.00768 | | 0.00000 | 0.00647 |
| Ave. stack volumetric flowrate (dscf/min.) | | ##### | 118,088 | | 104,153 | 104,153 | | 117,015 | 117,015 | |
| TEQ Production Rate (mg/d) | | 0.00000 | 0.03082 | | 0.00000 | 0.03260 | | 0.00000 | 0.03087 | |
| Ave. of 3 runs (mg TEQ/day) | | | | | | | | | | |
| <DL=0: | | | 0.000 | | | | | | | |
| <DL=1/2DL: | | | 0.0157 | | | | | | | |
| <DL=DL: | | | 0.0314 | | | | | | | |

NA = not analyzed

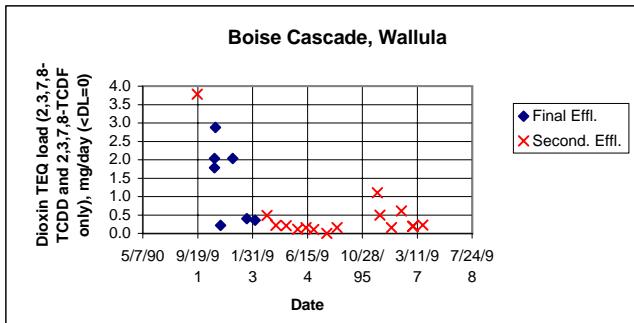
Boise-Cascade Wallula

Facility Boise-Cascade Wallula
 Lab Triangle Laboratories, Durham, NC
 Sample Name Final Effluent
 Sample Number 158252
 Date 4/7-8/92

| Units | Congener | TEF | pg/L Value | Qualifier | TEQ pg/L | | |
|-------------------------|---------------------|-------|---------------|-----------|---------------------|-----------|----------------------|
| | | | | | TEQ pg/L (<DL=0) | <DL=1/2DL | TEQ pg/L (<DL=DL) |
| | 2,3,7,8-TCDD | 1 | 2.9 | E | 2.9 | | 2.9 |
| | 1,2,3,7,8-PCDD | 0.5 | 6.3 | U | 0 | | 3.15 |
| | 1,2,3,4,7,8-HxCDD | 0.1 | 12.3 | U | 0 | | 1.23 |
| | 1,2,3,6,7,8-HxCDD | 0.1 | 7.7 | U | 0 | | 0.77 |
| | 1,2,3,7,8,9-HxCDD | 0.1 | 10.4 | U | 0 | | 1.04 |
| | 1,2,3,4,6,7,8-HpCDD | 0.01 | 34.6 | B | 0 | | 0.346 |
| | OCDD | 0.001 | 166 | B | 0 | | 0.166 |
| | 2,3,7,8-TCDF | 0.1 | 24.3 | B | 0 | | 2.43 |
| | 1,2,3,7,8-PCDF | 0.05 | 7.8 | U | 0 | | 0.39 |
| | 2,3,4,7,8-PCDF | 0.5 | 7.9 | U | 0 | | 3.95 |
| | 1,2,3,4,7,8-HxCDF | 0.1 | 12.3 | U | 0 | | 1.23 |
| | 1,2,3,6,7,8-HxCDF | 0.1 | 8.7 | U | 0 | | 0.87 |
| | 2,3,4,6,7,8-HxCDF | 0.1 | 7.3 | EB | 0 | | 0.73 |
| | 1,2,3,7,8,9-HxCDF | 0.1 | 13.9 | U | 0 | | 1.39 |
| | 1,2,3,4,6,7,8-HpCDF | 0.01 | 14.1 | U | 0 | | 0.141 |
| | 1,2,3,4,7,8,9-HpCDF | 0.01 | 24.1 | U | 0 | | 0.241 |
| | OCDF | 0.001 | 44.9 | U | 0 | | 0.0449 |
| EPA TEQ | | | | | 2.9 | | 21.0 |
| Flow (cubic meters/sec) | | | | | 1.265 | | 1.265 |
| TEQ load (mg/D) | | | | | 0.317 | 1.307 | 2.30 |

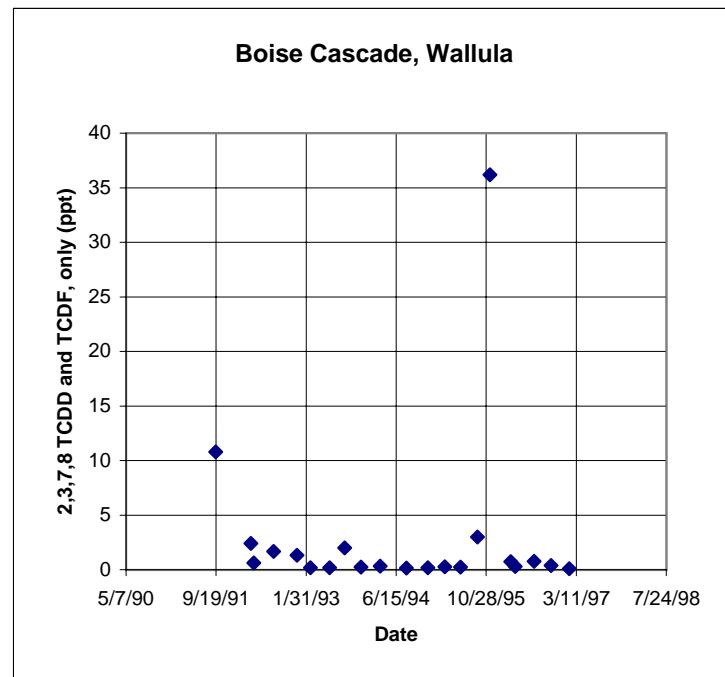
Boise Cascade, Wallula - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | | 2,3,7,8-TCDF TEF = 0.1 | | | Flow (MGD) | TEQ Load (mg/day) | | | |
|--|-------------------------|--------------------|---------|---------------------------|--------------------|---------|---------------|----------------------|------|------|--|
| | Value (ppq) | TEQ (ppq) <DL = | 0 DL | Value (ppq) | TEQ (ppq) <DL = | 0 DL | | <DL = 1/2 DL | DL | | |
| Boise Cascade, Wallula - Final Mill Effluent | | | | | | | | | | | |
| 2/20/92 | 13 | 13 | 13 | 46 | 4.6 | 4.6 | 26.8 | 1.79 | 1.79 | 1.79 | |
| 2/20/92 | 15 | 15 | 15 | 51 | 5.1 | 5.1 | 26.8 | 2.04 | 2.04 | 2.04 | |
| 2/27/92 | 20 | 20 | 20 | 72 | 7.2 | 7.2 | 27.93 | 2.88 | 2.88 | 2.88 | |
| 4/15/92 | 4.1 U | 0 | 4.1 | 20 | 2 | 2 | 29.11 | 0.22 | 0.45 | 0.67 | |
| 8/4/92 | 13 | 13 | 13 | 55 | 5.5 | 5.5 | 29.08 | 2.04 | 2.04 | 2.04 | |
| 12/9/92 | 10 U | 0 | 10 | 40 | 4 | 4 | 26.62 | 0.40 | 0.91 | 1.41 | |
| 2/24/93 | 3.9 U | 0 | 3.9 | 38 | 3.8 | 3.8 | 24.9 | 0.36 | 0.54 | 0.73 | |
| Boise Cascade, Wallula - Secondary Effluent | | | | | | | | | | | |
| note: secondary effluent is major portion of final effluent (75-80%) | | | | | | | | | | | |
| 9/16/91 | 40 | 40 | 40 | 140 | 14 | 14 | 18.5 | 3.78 | 3.78 | 3.78 | |
| 6/10/93 | 6.9 U | 0 | 6.9 | 78 | 7.8 | 7.8 | 16.5 | 0.49 | 0.70 | 0.92 | |
| 9/2/93 | 3.6 U | 0 | 3.6 | 33 | 3.3 | 3.3 | 17.1 | 0.21 | 0.33 | 0.45 | |
| 12/2/93 | 10 U | 0 | 10 | 33 | 3.3 | 3.3 | 16.4 | 0.20 | 0.52 | 0.83 | |
| 3/19/94 | 2.4 U | 0 | 2.4 | 15 | 1.5 | 1.5 | 20 | 0.11 | 0.20 | 0.30 | |
| 6/1/94 | 7.6 U | 0 | 7.6 | 18 | 1.8 | 1.8 | 22.5 | 0.15 | 0.48 | 0.80 | |
| 8/11/94 | 3.4 U | 0 | 3.4 | 15 | 1.5 | 1.5 | 19 | 0.11 | 0.23 | 0.35 | |
| 12/8/94 | 3.8 U | 0 | 3.8 | 10 U | 0 | 1 | 19.7 | 0.00 | 0.18 | 0.36 | |
| 3/12/95 | 10 U | 0 | 10 | 23 | 2.3 | 2.3 | 18 | 0.16 | 0.50 | 0.84 | |
| 6/8/95 | 4.5 U | 0 | 4.5 | 14 | 1.4 | 1.4 | 28.95 | 0.15 | 0.40 | 0.65 | |
| 9/10/95 | 3.1 U | 0 | 3.1 | 55 | 5.5 | 5.5 | 18.3 | 0.38 | 0.49 | 0.60 | |
| 3/13/96 | 5.6 | 5.6 | 5.6 | 53 | 5.3 | 5.3 | 26.7 | 1.10 | 1.10 | 1.10 | |
| 11/18/95 | 10 | 10 | 10 | 74 | 7.4 | 7.4 | 18.2 | 1.20 | 1.20 | 1.20 | |
| 4/6/96 | 7.1 U | 0 | 7.1 | 72 | 7.2 | 7.2 | 18.1 | 0.49 | 0.74 | 0.98 | |
| 7/20/96 | 1.2 U | 0 | 1.2 | 18 | 1.8 | 1.8 | 22.9 | 0.16 | 0.21 | 0.26 | |
| 10/19/96 | 2.9 | 2.9 | 2.9 | 29 | 2.9 | 2.9 | 27.6 | 0.61 | 0.61 | 0.61 | |
| 1/31/97 | 5.0 U | 0 | 5 | 28 | 2.8 | 2.8 | 17.7 | 0.19 | 0.36 | 0.52 | |
| 5/2/97 | 2.9 U | 0 | 2.9 | 28 | 2.8 | 2.8 | 21.4 | 0.23 | 0.34 | 0.46 | |
| Low | | | | | | | | 0.00 | 0.18 | 0.26 | |
| Average | | | | | | | | 0.78 | 0.92 | 1.06 | |
| High | | | | | | | | 3.78 | 3.78 | 3.78 | |
| Count | | | | | | | | 25 | | | |



Boise Cascade, Wallula - Sludge (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | 2,3,7,8-TCDF TEF = 0.1 | | 2,3,7,8-TCDD+2,3,7,8-TCDF, only | | |
|--|-------------------------|----------------------------|---------------------------|----------------------------|---|-------|-------|
| | Value (ppt) | TEQ (ppt) <DL = 0 DL | Value (ppt) | TEQ (ppt) <DL = 0 DL | Total TEQ (ppt) <DL = 0 1/2 DL DL | | |
| Boise Cascade, Wallula - "Clarifier Sludge" | | | | | | | |
| 9/16/91 | 9.1 | 9.1 | 9.1 | 17 | 1.7 | 1.7 | 10.8 |
| 3/31/92 | 1.3 | 1.3 | 1.3 | 11 | 1.1 | 1.1 | 2.4 |
| 4/15/92 | 0.45 | 0.45 | 0.45 | 1.6 | 0.16 | 0.16 | 0.61 |
| 8/4/92 | 1.3 | 1.3 | 1.3 | 3.7 | 0.37 | 0.37 | 1.67 |
| ##### | 1.1 | 1.1 | 1.1 | 2.3 | 0.23 | 0.23 | 1.33 |
| 2/24/93 | 0.28 | U | 0 | 0.28 | 1.9 | 0.19 | 0.19 |
| 6/10/93 | 0.31 | U | 0 | 0.31 | 1.7 | 0.17 | 0.17 |
| 9/2/93 | 1.6 | 1.6 | 1.6 | 3.8 | 0.38 | 0.38 | 1.98 |
| 12/2/93 | 1 | U | 0 | 1 | 2.4 | 0.24 | 0.24 |
| 3/19/94 | 1 | U | 0 | 1 | 3.3 | 0.33 | 0.33 |
| 8/11/94 | 0.37 | U | 0 | 0.37 | 1.6 | 0.16 | 0.16 |
| 12/8/94 | 1 | U | 0 | 1 | 1.7 | 0.17 | 0.17 |
| 3/12/95 | 1 | U | 0 | 1 | 2.7 | 0.27 | 0.27 |
| 6/8/95 | 0.55 | U | 0 | 0.55 | 2.4 | 0.24 | 0.24 |
| 9/10/95 | 1 | 1 | 1 | 20 | 2 | 2 | 3 |
| 3/13/96 | 0.47 | 0.47 | 0.47 | 2.5 | 0.25 | 0.25 | 0.72 |
| ##### | 14 | 14 | 14 | 222 | 22.2 | 22.2 | 36.2 |
| 4/6/96 | 0.65 | U | 0 | 0.65 | 2.8 | 0.28 | 0.28 |
| 7/20/96 | 0.6 | 0.6 | 0.6 | 1.7 | 0.17 | 0.17 | 0.77 |
| ##### | 0.28 | 0.28 | 0.28 | 0.91 | 0.091 | 0.091 | 0.371 |
| 1/31/97 | 0.33 | U | 0 | 0.33 | 0.77 | 0.077 | 0.077 |
| Mean TEQ (ppt) | | | | 2.95 | 3.26 | | |
| Production rate (tons/year dry weight) | | | | 11,000 | 11,000 | | |
| TEQ load (mg/day) | | | | 0.081 | 0.085 | 0.089 | |



Cameron-Yakima (page 5 of 33)

| Facility Lab | Cameron-Yakima Alta | MH4 = Multiple Hearth Furnace | | | | | |
|-----------------|------------------------|-------------------------------|----------------|---------------------------|---------------|----------------------------|---------------|
| Sample Name | | MH4 #1 12/1/94 mg/hr | TEQ (mg/hr) | MH#4 12/20/94 mg/hr | TEQ (mg/hr) | MH #4 12/21/94 mg/hr | TEQ (mg/hr) |
| Date | Congener | TEF | | | | | |
| | 2,3,7,8-TCDD | 1 | 0.0337 | 0.0337 | 0.0058 | 0.0058 | 0.0006 |
| | 1,2,3,7,8-PCDD | 0.5 | 0.1193 | 0.0597 | 0.0219 | 0.0110 | 0.0026 |
| | 1,2,3,4,7,8-HxCDD | 0.1 | 0.1683 | 0.0168 | 0.0283 | 0.0028 | 0.0051 |
| | 1,2,3,6,7,8-HxCDD | 0.1 | 0.2753 | 0.0275 | 0.1004 | 0.0100 | 0.0105 |
| | 1,2,3,7,8,9-HxCDD | 0.1 | 0.2294 | 0.0229 | 0.0593 | 0.0059 | 0.0059 |
| | 1,2,3,4,6,7,8-HpCDD | 0.01 | 3.8239 | 0.0382 | 1.5517 | 0.0155 | 0.1707 |
| | OCDD | 0.001 | 10.7070 | 0.0107 | 4.6552 | 0.0047 | 0.7184 |
| | 2,3,7,8-TCDF | 0.1 | 0.0597 | 0.0060 | 0.0164 | 0.0016 | 0.0046 |
| | 1,2,3,7,8-PCDF | 0.05 | 0.1683 | 0.0084 | 0.0347 | 0.0017 | 0.0117 |
| | 2,3,4,7,8-PCDF | 0.5 | 0.1683 | 0.0841 | 0.0575 | 0.0288 | 0.0267 |
| | 1,2,3,4,7,8-HxCDF | 0.1 | 0.3518 | 0.0352 | 0.0785 | 0.0078 | 0.0309 |
| | 1,2,3,6,7,8-HxCDF | 0.1 | 0.3059 | 0.0306 | 0.0832 | 0.0083 | 0.0352 |
| | 2,3,4,6,7,8-HxCDF | 0.1 | 0.2141 | 0.0214 | 0.1187 | 0.0119 | 0.0747 |
| | 1,2,3,7,8,9-HxCDF | 0.1 | 0.0811 | 0.0081 | 0.0374 | 0.0037 | 0.0245 |
| | 1,2,3,4,6,7,8-HpCDF | 0.01 | 1.4837 | 0.0148 | 0.3651 | 0.0037 | 0.1921 |
| | 1,2,3,4,7,8,9-HpCDF | 0.01 | 0.1683 | 0.0017 | 0.0630 | 0.0006 | 0.0448 |
| | OCDF | 0.001 | 0.5353 | 0.0005 | 0.2921 | 0.0003 | 0.1814 |
| EPA TEQ | | | 0.42 | | 0.12 | | 0.04 |
| TEQ load (mg/D) | | | 10.09 | | 2.98 | | 0.96 |

| | |
|--------------------|------|
| Average of 3 runs: | |
| <DL=0 | 4.68 |
| <DL=1/2DL | 4.68 |
| <DL=DL | 4.68 |

Cameron-Yakima (page 6 of 33)

Facility
Lab

| Sample Name Date Units Congener | TEF | RK3 = Rotary Kiln Furnace | | | | | |
|--|-------|-------------------------------------|--------|-------------------------------------|--------|--------------------------------------|--------|
| | | RK3 12/6/94 mg/hr TEQ (mg/hr) | | RK3 12/7/94 mg/hr TEQ (mg/hr) | | RK3 12/19/94 mg/hr TEQ (mg/hr) | |
| | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.0378 | 0.0378 | 0.0922 | 0.0922 | 0.0620 | 0.0620 |
| 1,2,3,7,8-PCDD | 0.5 | 0.1227 | 0.0613 | 0.3121 | 0.1561 | 0.2306 | 0.1153 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.1302 | 0.0130 | 0.3134 | 0.0313 | 0.1888 | 0.0189 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.1252 | 0.0125 | 0.3690 | 0.0369 | 0.2678 | 0.0268 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.1110 | 0.0111 | 0.2160 | 0.0216 | 0.2098 | 0.0210 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 1.3225 | 0.0132 | 4.4404 | 0.0444 | 4.1142 | 0.0411 |
| OCDD | 0.001 | 4.7554 | 0.0048 | 15.4170 | 0.0154 | 16.4210 | 0.0164 |
| 2,3,7,8-TCDF | 0.1 | 0.1222 | 0.0122 | 0.4111 | 0.0411 | 0.2731 | 0.0273 |
| 1,2,3,7,8-PCDF | 0.05 | 0.4461 | 0.0223 | 1.4418 | 0.0721 | 0.9892 | 0.0495 |
| 2,3,4,7,8-PCDF | 0.5 | 0.3990 | 0.1995 | 1.4173 | 0.7087 | 0.8681 | 0.4340 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 0.8702 | 0.0870 | 2.7347 | 0.2735 | 2.1177 | 0.2118 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 0.7761 | 0.0776 | 2.9100 | 0.2910 | 1.8518 | 0.1852 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 0.3999 | 0.0400 | 1.2251 | 0.1225 | 0.9747 | 0.0975 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 0.1631 | 0.0163 | 0.4312 | 0.0431 | 0.3653 | 0.0365 |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 3.0492 | 0.0305 | 7.5766 | 0.0758 | 5.5338 | 0.0553 |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 0.2846 | 0.0028 | 0.7426 | 0.0074 | 0.5389 | 0.0054 |
| OCDF | 0.001 | 0.7492 | 0.0007 | 1.3438 | 0.0013 | 1.7542 | 0.0018 |
| EPA TEQ | | | 0.64 | | 2.03 | | 1.41 |
| TEQ load (mg/D) | | | 15.43 | | 48.82 | | 33.74 |

| | |
|--------------------|-------|
| Average of 3 runs: | |
| <DL=0 | 32.66 |
| <DL=1/2DL | 32.66 |
| <DL=DL | 32.66 |

Conrad Industries (page 7 of 33)

Facility

Conrad Industries, Inc. Advanced Recycling Technology System, Chelalis, WA

| Sample Name Lab Sample Number File Name Date | Air Emissions - Retort Exhaust Stack | | | | | | | | | | | | | |
|--|---|-------------------|----|----------------------|---------|--------|-------------------|---|----------------------|--------|--------------|-------------------|--------|--------|
| | Huntingdon Engineering and Environmental, Inc. (formerly Twin City Testing) | | | | | | | | | | | | | |
| | Run 1 | | | | Run 2 | | | | Run 3 | | | | | |
| | LB604\REPCDRSM 2/24/94 | | | | 2/24/94 | | | | 2/24/94 | | | | | |
| Congener | TEF | Value (ng/min) | Q | TEQ (ng/min) <DL= | | | Value (ng/min) | Q | TEQ (ng/min) <DL= | | | Value (ng/min) | | |
| | | | | 0 | 1/2 DL | DL | | | 0 | DL | | 0 | | |
| 2,3,7,8-TCDD | 1 | 0.025 | UB | 0 | 0.01250 | 0.025 | 0.030 | U | 0 | 0.03 | 0.032 | 0 | 0.032 | |
| 1,2,3,7,8-PCDD | 0.5 | 0.178 | | 0.089 | 0.08900 | 0.089 | 0.030 | U | 0 | 0.015 | 0.042 | U | 0 | 0.021 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.130 | U | 0 | 0.00650 | 0.013 | 0.030 | U | 0 | 0.003 | 0.038 | U | 0 | 0.0038 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.051 | | 0.0051 | 0.00510 | 0.0051 | 0.058 | | 0.0058 | 0.0058 | 0.040 | U | 0 | 0.004 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.040 | U | 0 | 0.00200 | 0.004 | 0.026 | U | 0 | 0.0026 | 0.064 | U | 0 | 0.0064 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.110 | | 0.0011 | 0.00110 | 0.0011 | 0.299 | | 0.003 | 0.003 | 0.055 | | 0.0006 | 0.0006 |
| OCDD | 0.001 | 0.794 | B | 0 | 0.00040 | 0.0008 | 1.25 | B | 0 | 0.0013 | 0.493 | | 0.0005 | 0.0005 |
| 2,3,7,8-TCDF | 0.1 | 0.012 | * | 0 | 0.00060 | 0.0012 | 0.026 | * | 0 | 0.0026 | 0.015 | * | 0 | 0.0015 |
| 1,2,3,7,8-PCDF | 0.05 | 0.036 | U | 0 | 0.00090 | 0.0018 | 0.077 | U | 0 | 0.0039 | 0.025 | | 0.0013 | 0.0013 |
| 2,3,4,7,8-PCDF | 0.5 | 0.025 | U | 0 | 0.00625 | 0.0125 | 0.060 | | 0.03 | 0.03 | 0.021 | | 0.0105 | 0.0105 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.021 | U | 0 | 0.00105 | 0.0021 | 0.030 | | 0.003 | 0.003 | 0.019 | U | 0 | 0.0019 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.014 | U | 0 | 0.00070 | 0.0014 | 0.030 | | 0.003 | 0.003 | 0.015 | U | 0 | 0.0015 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.015 | | 0.0015 | 0.00150 | 0.0015 | 0.037 | | 0.0037 | 0.0037 | 0.019 | U | 0 | 0.0019 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.019 | U | 0 | 0.00095 | 0.0019 | 0.030 | U | 0 | 0.003 | 0.023 | U | 0 | 0.0023 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.034 | U | 0 | 0.00017 | 0.0003 | 0.097 | | 0.001 | 0.001 | 0.034 | U | 0 | 0.0003 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 0.034 | U | 0 | 0.00017 | 0.0003 | 0.032 | U | 0 | 0.0003 | 0.025 | U | 0 | 0.0003 |
| OCDF | 0.001 | 0.047 | | 5E-05 | 0.00005 | 5E-05 | 0.073 | | 7E-05 | 7E-05 | 0.034 | | 3E-05 | 3E-05 |
| EPA TEQ (ng/min) | | | | 0.097 | 0.129 | 0.161 | | | 0.05 | 0.11 | | | 0.01 | 0.09 |
| TEQ Production Rate (mg/d) | | | | ##### | ##### | ##### | ##### | | ##### | ##### | ##### | ##### | ##### | ##### |
| TEQ load (mg/D) | | | | | | | | | | | | | | |
| Ave. of 3 runs (mg TEQ/day) | | | | Sum of 2 sources: | | | | | | | | | | |
| <DL=0: | | ##### | | <DL=0: | | ##### | | | | | | | | |
| <DL=1/2DL: | | ##### | | <DL=1/2DL: | | ##### | | | | | | | | |
| <DL=DL: | | ##### | | <DL=DL: | | ##### | | | | | | | | |

* Value may include contributions from other TCDF isomers (treated like a "U")

Conrad Industries (page 8 of 33)

Facility

Conrad Industries, Inc. Advanced Recycling Technology System, Chelalis, WA

TEQ load (mg/D)

Ave. of 3 runs (mg TEQ/day)

<DL=0: 0.000329

<DL=1/2DL: 0.000399

<DL=DL: 0.000469

Daishowa

Facility Daishowa America -- Port Angeles Mill
 Lab Quanterra
 Sample Name Boiler Ash
 Sample Number 087893-0001-SA
 Date 5/23/96

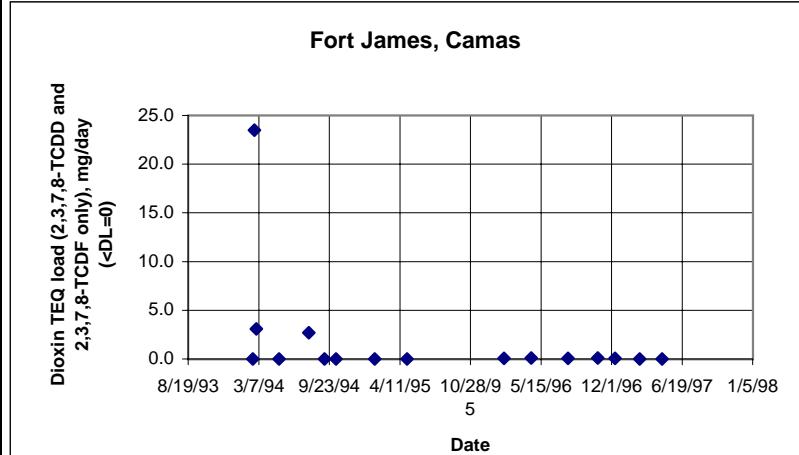
| Units | Congener | TEF | pg/g | TEQ pg/L | | |
|----------------------------------|------------------|-------|------------|---------------------|----------------|--------------|
| | | | | TEQ pg/L (<DL=0) | <DL=1/2 DL) | TEQ pg/L |
| | 2,3,7,8-TCDD | 1 | 0.048 | U | 0 | 0.048 |
| | 1,2,3,7,8-PCDD | 0.5 | 2 | U | 0 | 1 |
| | 1,2,3,4,7,8-HxCI | 0.1 | 0.91 | U | 0 | 0.091 |
| | 1,2,3,6,7,8-HxCI | 0.1 | 2.2 | U | 0 | 0.22 |
| | 1,2,3,7,8,9-HxCI | 0.1 | 2.9 | U | 0 | 0.29 |
| | 1,2,3,4,6,7,8-Hp | 0.01 | 19 | J | 0.19 | 0.19 |
| | OCDD | 0.001 | 120 | | 0.12 | 0.12 |
| | 2,3,7,8-TCDF | 0.1 | 1.7 | U | 0 | 0.17 |
| | 1,2,3,7,8-PCDF | 0.05 | 0.81 | U | 0 | 0.0405 |
| | 2,3,4,7,8-PCDF | 0.5 | 0.84 | U | 0 | 0.42 |
| | 1,2,3,4,7,8-HxCI | 0.1 | 0.92 | U | 0 | 0.092 |
| | 1,2,3,6,7,8-HxCI | 0.1 | 0.54 | U | 0 | 0.054 |
| | 2,3,4,6,7,8-HxCI | 0.1 | 0.45 | U | 0 | 0.045 |
| | 1,2,3,7,8,9-HxCI | 0.1 | 0.31 | U | 0 | 0.031 |
| | 1,2,3,4,6,7,8-Hp | 0.01 | 1.7 | U | 0 | 0.017 |
| | 1,2,3,4,7,8,9-Hp | 0.01 | 0.48 | U | 0 | 0.0048 |
| | OCDF | 0.001 | 4 | U | 0 | 0.004 |
| EPA TEQ | | | | 0.31 | | 2.84 |
| Waste Production Rate (tons/day) | | | | 41.3 | | 41.3 |
| TEQ Production Rate (mg/d) | | | | 0.0116 | 0.059 | 0.107 |

Fort James - Ash

| | | | | | |
|----------------------------------|----------------|---------------|---------|---------|------|
| Facility | Ft. James | | | | |
| Lab | Quanterra | | | | |
| Sample Name | Ft. James | | | | |
| Sample Number | 095839-0002-SA | | | | |
| Date | 10/20/97 | | | | |
| Units | pg/g | | | | |
| Congener | TEF | TEQ (ng/dscm) | | | |
| | | <DL= | | | |
| | | Q | 0 | DL | DL |
| 2,3,7,8-TCDD | 1 | 3.2 | 3.20000 | 3.20000 | |
| 1,2,3,7,8-PCDD | 0.5 | 15 | 7.50000 | 7.50000 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 20 | 2.00000 | 2.00000 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 40 | 4.00000 | 4.00000 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 28 | 2.80000 | 2.80000 | |
| 1,2,3,4,6,7,8-HpCl | 0.01 | 160 | 1.60000 | 1.60000 | |
| OCDD | 0 | 99 | 0.09900 | 0.09900 | |
| 2,3,7,8-TCDF | 0.1 | 17 | 1.70000 | 1.70000 | |
| 1,2,3,7,8-PCDF | 0.05 | 11 U | 0.00000 | 0.55000 | |
| 2,3,4,7,8-PCDF | 0.5 | 20 | ##### | ##### | |
| 1,2,3,4,7,8-HxCDF | 0.1 | 11 | 1.10000 | 1.10000 | |
| 1,2,3,6,7,8-HxCDF | 0.1 | 7.1 | 0.71000 | 0.71000 | |
| 2,3,4,6,7,8-HxCDF | 0.1 | 5.8 J | 0.58000 | 0.58000 | |
| 1,2,3,7,8,9-HxCDF | 0.1 | 1.4 U | 0.00000 | 0.14000 | |
| 1,2,3,4,7,8-HpCDF | 0.01 | 9.3 | 0.09300 | 0.09300 | |
| 1,2,3,4,7,8,9-HpCl | 0.01 | 3.7 J | 0.03700 | 0.03700 | |
| OCDF | 0 | 2.8 U | 0.00000 | 0.00280 | |
| EPA TEQ | | | 35.4 | 35.8 | 36.1 |
| Waste Production Rate (tons/day) | | 16.894 | ##### | 16.894 | |
| TEQ Load (mg/d) | | 0.544 | 0.549 | 0.555 | |

Fort James - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | | 2,3,7,8-TCDF TEF = 0.1 | | | Flow (MGD) | TEQ Load (mg/day) <DL= 1/2 | | | |
|---|-------------------------|-------------------------|-----|---------------------------|-------------------------|------|-------------------|-------------------------------------|-------|-------|--|
| | Value (ppq) | TEQ (ppq) <DL = 0 | DL | Value (ppq) | TEQ (ppq) <DL = 0 | DL | | 0 | DL | DL | |
| Fort James, Camas - "ASB Effluent" | | | | | | | | | | | |
| Duplicate: | | | | | | | | | | | |
| 2/23/94 | 92.0 | 92 | 92 | 240 | 24 | 24 | 54.0 | 23.71 | 23.71 | 23.71 | |
| 2/23/94 | 84.0 | 84 | 84 | 300 | 30 | 30 | 54.0 | 23.30 | 23.30 | 23.30 | |
| Ave. of dup: | 88.0 | 88 | 88 | 270 | 27 | 27 | 54.0 | 23.50 | 23.50 | 23.50 | |
| 2/18/94 | 3.3 U | 0 | 3.3 | 3.3 U | 0 | 0.33 | 54.0 | 0.00 | 0.37 | 0.74 | |
| 2/23/94 | 88 | 88 | 88 | 270 | 27 | 27 | 54.0 | 23.50 | 23.50 | 23.50 | |
| 2/28/94 | 12.0 | 12 | 12 | 31 | 3.1 | 3.1 | 54.0 | 3.09 | 3.09 | 3.09 | |
| 5/4/94 | 4.1 U | 0 | 4.1 | 4.1 U | 0 | 0.41 | 51.7 | 0.00 | 0.44 | 0.88 | |
| 7/27/94 | 11.0 | 11 | 11 | 10 | 1 | 1 | 59.0 | 2.68 | 2.68 | 2.68 | |
| 9/9/94 | 5.5 U | 0 | 5.5 | 5.5 U | 0 | 0.55 | 58.2 | 0.00 | 0.67 | 1.33 | |
| 10/12/94 | 2.8 U | 0 | 2.8 | 2.8 U | 0 | 0.28 | 59.8 | 0.00 | 0.35 | 0.70 | |
| 1/30/95 | 2.7 U | 0 | 2.7 | 2.7 U | 0 | 0.27 | 59.0 | 0.00 | 0.33 | 0.66 | |
| 5/1/95 | 1.5 U | 0 | 1.5 | 1.5 U | 0 | 0.15 | 59.8 | 0.00 | 0.19 | 0.37 | |
| 1/31/96 | 3.8 U | 0 | 3.8 | 3.8 | 0.38 | 0.38 | 53.1 | 0.08 | 0.46 | 0.84 | |
| 4/17/96 | 4.3 U | 0 | 4.3 | 4.3 | 0.43 | 0.43 | 52.4 | 0.09 | 0.51 | 0.94 | |
| 7/31/96 | 3.2 U | 0 | 3.2 | 3.2 | 0.32 | 0.32 | 56.3 | 0.07 | 0.41 | 0.75 | |
| 10/23/96 | 4.6 U | 0 | 4.6 | 4.6 | 0.46 | 0.46 | 55.4 | 0.10 | 0.58 | 1.06 | |
| 12/11/96 | 2.8 U | 0 | 2.8 | 2.8 | 0.28 | 0.28 | 58.0 | 0.06 | 0.37 | 0.68 | |
| 2/19/97 | 2.7 U | 0 | 2.7 | 2.9 U | 0 | 0.29 | 47.4 | 0.00 | 0.27 | 0.54 | |
| 4/23/97 | 1.8 U | 0 | 1.8 | 2.5 U | 0 | 0.25 | 45.6 | 0.00 | 0.18 | 0.35 | |
| Low | | | | | | | | 0.00 | 0.18 | 0.35 | |
| Average | | | | | | | | 1.85 | 2.15 | 2.44 | |
| High | | | | | | | | 23.50 | 23.50 | 23.50 | |
| Count | | | | | | | | 16 | | | |



5

Fort Lewis - Air Emissions (page 12 of 33)

| Facility Sample Name Weston W.O. No. Lab Sample ID Date | Fort Lewis Incinerator | | | | | | | | | | | | | | | |
|--|---|-----------------|------------------|-------------------|--------|------------------|-------------------|-----------------|------------------|-------------------|-------|------------------|-------------------|---|-----------------------|-------|
| | No. 1 Incinerator 11505-001-001 Unknown | | | | | | | | | | | | | | | |
| | Congener | TEF | Run 1 7/19/97 | | | Run 2 7/19/97 | | | Run 3 7/20/97 | | | Value (lb/hr) | Value (mg/day) | Q | TEQ (ng/dscm) <DL= | |
| | | | Value (lb/hr) | Value (mg/day) | Q | Value (lb/hr) | Value (mg/day) | Q | Value (lb/hr) | Value (mg/day) | Q | | | | 0 | DL |
| 2,3,7,8-TCDD | 1 | 9.73E-11 | 0.001061 | U | 0.000 | 0.001 | 7.86E-11 | 0.000857 | U | 0.000 | 0.001 | 9.24E-11 | 0.001008 | U | 0 | 0.001 |
| 1,2,3,7,8-PCDD | 0.5 | 3.12E-10 | 0.003404 | U | 0.000 | 0.002 | 2.75E-10 | 0.003 | U | 0.000 | 0.002 | 2.85E-10 | 0.003109 | U | 0 | 0.002 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 4.61E-10 | 0.005029 | U | 0.000 | 0.001 | 4.01E-10 | 0.004375 | U | 0.000 | 0.000 | 4.24E-10 | 0.004625 | U | 0.000 | 0.000 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 1.09E-09 | 0.011891 | U | 0.000 | 0.001 | 9.43E-10 | 0.010287 | U | 0.000 | 0.001 | 9.24E-10 | 0.01008 | U | 0.000 | 0.001 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 1.25E-09 | 0.013636 | U | 0.000 | 0.001 | 9.43E-10 | 0.010287 | U | 0.000 | 0.001 | 9.24E-10 | 0.01008 | U | 0.000 | 0.001 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 1.09E-08 | 0.118909 | | 0.001 | 0.001 | 1.02E-08 | 0.111273 | | 0.001 | 0.001 | 8.47E-09 | 0.0924 | | 0.001 | 0.001 |
| OCDD | 0.001 | 2.34E-08 | 0.255273 | | 0.000 | 0.000 | 1.96E-08 | 0.213818 | | 0.000 | 0.000 | 1.54E-08 | 0.168 | | 0.000 | 0.000 |
| 2,3,7,8-TCDF | 0.1 | 2.65E-10 | 0.002891 | U | 0.000 | 0.000 | 2.51E-10 | 0.002738 | U | 0.000 | 0.000 | 3.31E-10 | 0.003611 | U | 0.000 | 0.000 |
| 1,2,3,7,8-PCDF | 0.05 | 4.21E-10 | 0.004593 | U | 0 | 0.000 | 3.46E-10 | 0.003775 | U | 0 | 0.000 | 4.08E-10 | 0.004451 | U | 0 | 0.000 |
| 2,3,4,7,8-PCDF | 0.5 | 7.49E-10 | 0.008171 | U | 0.000 | 0.004 | 7.07E-10 | 0.007713 | U | 0.000 | 0.004 | 7.70E-10 | 0.0084 | U | 0.000 | 0.004 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 5.70E-10 | 0.006218 | U | 0.000 | 0.001 | 6.44E-10 | 0.007025 | U | 0.000 | 0.001 | 7.70E-10 | 0.0084 | U | 0.000 | 0.001 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 8.59E-10 | 0.009371 | U | 0.000 | 0.001 | 7.86E-10 | 0.008575 | U | 0.000 | 0.001 | 7.70E-10 | 0.0084 | U | 0.000 | 0.001 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 1.64E-09 | 0.017891 | U | 0 | 0.002 | 1.41E-09 | 0.015382 | U | 0 | 0.002 | 1.31E-09 | 0.014291 | U | 0 | 0.001 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 1.56E-10 | 0.001702 | U | 0 | 0.000 | 1.89E-10 | 0.002062 | U | 0 | 0.000 | 9.24E-11 | 0.001008 | U | 0 | 0.000 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 4.21E-09 | 0.045927 | | 0.000 | 0.000 | 4.09E-09 | 0.044618 | | 0.000 | 0.000 | 3.93E-09 | 0.042873 | | 0.000 | 0.000 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 7.65E-10 | 0.008345 | U | 0.000 | 0.000 | 6.44E-10 | 0.007025 | U | 0.000 | 0.000 | 5.78E-10 | 0.006305 | U | 0.000 | 0.000 |
| OCDF | 0.001 | 3.98E-09 | 0.043418 | | 0 | 0.000 | 3.54E-09 | 0.038618 | U | 0 | 0.000 | 2.70E-09 | 0.029455 | U | 0 | 0.000 |
| TEQ Production Rate (mg/d) | | | | | 0.0019 | 0.01597 | | | | 0.0018 | 0.014 | | | | 0.0015 | 0.015 |
| Ave. of 3 runs (mg TEQ/day) | | | | | | | | | | | | | | | | |

<DL=0:

0.0017

<DL=1/2DL:

0.0084

<DL=DL:

0.015

Two highest incinerator loads added together (at most 2 can operate at
(mg/day))

<DL=0:

0.0028

<DL=1/2DL:

0.018

<DL=DL:

0.034

Fort Lewis - Air Emissions (page 13 of 33)

| Facility Sample Name Weston W.O. No. Lab Sample ID Date | Fort Lewis Incinerator | | | | | | | | | | | | Fort Lewis Incinerator | | | | |
|--|---|--------------------------|------------------|-------------------|-------|--------------------------|-------------------------|-------------------|-------|-----------------------|------------------|--------------------------|------------------------|-----------------------|------------------|--------------------------|---------------------|
| | No. 2 Incinerator 11505-001-001 Unknown | | | | | | | | | | | | | | | | |
| | Congener | TEF | Run 1 7/23/97 | | | | Run 2 7/23/97 | | | | Run 3 7/24/97 | | | | Run 1 7/15/9 | | |
| | | | Value (lb/hr) | Value (mg/day) | Q | TEQ (ng/dscm) <DL= | Value (lb/hr) | Value (mg/day) | Q | TEQ (ng/dscm) <DL= | Value (lb/hr) | Value (mg/day) | Q | TEQ (ng/dscm) <DL= | Value (lb/hr) | Value (mg/day) | Q |
| | | | | | | 0 | | | | 0 | | | | 0 | | | |
| 2,3,7,8-TCDD | 1 | 1.15E-10 | 0.001255 | U | 0.000 | 0.001 | 9.23E-11 | 0.001007 | U | 0.000 | 0.001 | 4.64E-11 | 0.000506 | U | 0.00 | 0.001 | 8.69E-11 0.000948 U |
| 1,2,3,7,8-PCDD | 0.5 | 2.61E-10 | 0.002847 | U | 0.000 | 0.001 | 2.00E-10 | 0.002182 | U | 0.000 | 0.001 | 1.60E-10 | 0.001745 | U | 0.0 | 0.001 | 2.53E-10 0.00276 U |
| 1,2,3,4,7,8-HxCDD | 0.1 | 3.30E-10 | 0.0036 | U | 0.000 | 0.000 | 2.61E-10 | 0.002847 | U | 0.000 | 0.000 | 2.05E-10 | 0.002236 | U | 0.000 | 0.000 | 2.85E-10 0.003109 U |
| 1,2,3,6,7,8-HxCDD | 0.1 | 7.06E-10 | 0.007702 | U | 0.000 | 0.001 | 7.54E-10 | 0.008225 | U | 0.000 | 0.001 | 5.48E-10 | 0.005978 | U | 0.000 | 0.001 | 6.88E-10 0.007505 U |
| 1,2,3,7,8,9-HxCDD | 0.1 | 6.45E-10 | 0.007036 | U | 0.000 | 0.001 | 5.46E-10 | 0.005956 | U | 0.000 | 0.001 | 5.94E-10 | 0.00648 | U | 0.000 | 0.001 | 8.69E-10 0.00948 U |
| 1,2,3,4,6,7,8-HpC | 0.01 | 4.76E-09 0.051927 | 0.001 | 0.001 | | 4.23E-09 0.046145 | 0.000 | 0.000 | | | | 3.27E-09 0.035673 | 0.000 | 0.000 | | 4.51E-09 0.0492 | |
| OCDD | 0.001 | 6.52E-09 0.071127 | 0.000 | 0.000 | | 6.38E-09 0.0696 | 0.000 | 0.000 | | | | 4.72E-09 0.051491 | 0.000 | 0.000 | | 5.14E-09 0.056073 U | |
| 2,3,7,8-TCDF | 0.1 | 4.07E-10 0.00444 | 0.000 | 0.000 | | 3.38E-10 | 0.003687 | U | 0.000 | 0.000 | | 2.21E-10 | 0.002411 | U | 0.000 | 0.000 | 4.35E-10 0.004745 U |
| 1,2,3,7,8-PCDF | 0.05 | 5.91E-10 | 0.006447 | U | 0.000 | 0.000 | 4.84E-10 0.00528 | 0.000 | 0.000 | | | 3.42E-10 | 0.003731 | U | 0.00 | 0.000 | 6.16E-10 0.00672 U |
| 2,3,4,7,8-PCDF | 0.5 | 9.21E-10 | 0.010047 | U | 0.000 | 0.005 | 7.30E-10 | 0.007964 | U | 0.000 | 0.004 | 4.72E-10 | 0.005149 | U | 0.000 | 0.003 | 1.11E-09 0.012109 U |
| 1,2,3,4,7,8-HxCDD | 0.1 | 6.91E-10 | 0.007538 | U | 0.000 | 0.001 | 6.61E-10 | 0.007211 | U | 0.000 | 0.001 | 5.25E-10 | 0.005727 | U | 0.000 | 0.001 | 9.48E-10 0.010342 U |
| 1,2,3,6,7,8-HxCDD | 0.1 | 8.44E-10 | 0.009207 | U | 0.000 | 0.001 | 6.92E-10 | 0.007549 | U | 0.000 | 0.001 | 5.17E-10 | 0.00564 | U | 0.000 | 0.001 | 9.48E-10 0.010342 U |
| 2,3,4,6,7,8-HxCDD | 0.1 | 1.15E-09 | 0.012545 | U | 0.000 | 0.001 | 1.00E-09 | 0.010909 | U | 0.00 | 0.001 | 6.62E-10 | 0.007222 | U | 0.00 | 0.001 | 1.74E-09 0.018982 U |
| 1,2,3,7,8,9-HxCDD | 0.1 | 6.45E-11 | 0.000704 | U | 0.000 | 0.000 | 8.46E-11 | 0.000923 | U | 0.00 | 0.000 | 1.22E-10 | 0.001331 | U | 0.00 | 0.000 | 2.21E-10 0.002411 U |
| 1,2,3,4,6,7,8-HpC | 0.01 | 3.15E-09 0.034364 | 0.000 | 0.000 | | 2.77E-09 0.030218 | 0.000 | 0.000 | | | | 1.90E-09 0.020727 | 0.000 | 0.000 | | 4.11E-09 0.044836 | |
| 1,2,3,4,7,8,9-HpC | 0.01 | 3.76E-10 | 0.004102 | U | 0.000 | 0.000 | 2.61E-10 | 0.002847 | U | 0.000 | 0.000 | 2.21E-10 | 0.002411 | U | 0.000 | 0.000 | 2.85E-10 0.003109 U |
| OCDF | 0.001 | 1.15E-09 | 0.012545 | U | 0 | 0.000 | 9.23E-10 | 0.010069 | U | 0.0000 | 0.000 | 6.16E-10 | 0.00672 | U | 0.000 | 0.000 | 7.35E-10 0.008018 U |
| TEQ Production Rate (mg/d) | | | | | | 0.00 | 0.0143 | | | | | 0.0011 | 0.012 | | | 0.00062 | 0.0085 |
| Ave. of 3 runs (mg TEQ/day) | | | | | | | | | | | | | | | | | |

| | |
|------------|--------|
| <DL=0: | 0.0010 |
| <DL=1/2DL: | 0.0063 |
| <DL=DL: | 0.012 |

| |
|---------|
| 0.00092 |
| 0.0099 |
| 0.019 |

Fort Lewis - Air Emissions (page 14 of 33)

Facility

Sample Name
Weston W.O. No.

Lab

Sample ID

Date

17

No. 3 Incinerator

11505-001-001

Unknown

| Congener | TEF | Run 2 | | | Run 3 | | | |
|-----------------------------|-------|-----------------------|---------|------------------|-------------------|---|-----------------------|-------|
| | | TEQ (ng/dscm) <DL= | | Value (lb/hr) | Value (mg/day) | Q | TEQ (ng/dscm) <DL= | |
| | | 0 | DL | | | | 0 | DL |
| 2,3,7,8-TCDD | 1 | 0.000 | 0.001 | 3.31E-10 | 0.003611 | U | 0.000 | 0.004 |
| 1,2,3,7,8-PCDD | 0.5 | 0.000 | 0.001 | 4.65E-10 | 0.005073 | U | 0.000 | 0.003 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.000 | 0.000 | 3.62E-10 | 0.003949 | U | 0.000 | 0.000 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.000 | 0.001 | 6.54E-10 | 0.007135 | U | 0.000 | 0.001 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.000 | 0.001 | 1.10E-09 | 0.012 | U | 0.000 | 0.001 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.000 | 0.000 | 5.51E-09 | 0.060109 | | 0.001 | 0.001 |
| OCDD | 0.001 | 0.000 | 0.000 | 6.14E-09 | 0.066982 | U | 0.000 | 0.000 |
| 2,3,7,8-TCDF | 0.1 | 0.000 | 0.000 | 3.39E-10 | 0.003698 | U | 0.000 | 0.000 |
| 1,2,3,7,8-PCDF | 0.05 | 0.000 | 0.000 | 5.59E-10 | 0.006098 | U | 0.000 | 0.000 |
| 2,3,4,7,8-PCDF | 0.5 | 0.000 | 0.006 | 1.18E-09 | 0.012873 | U | 0.000 | 0.006 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.000 | 0.001 | 1.73E-09 | 0.018873 | U | 0.000 | 0.002 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.000 | 0.001 | 1.02E-09 | 0.011127 | U | 0.000 | 0.001 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.000 | 0.002 | 1.73E-09 | 0.018873 | U | 0.00 | 0.002 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.000 | 0.000 | 4.88E-10 | 0.005324 | U | 0.00 | 0.001 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.000 | 0.000 | 4.41E-09 | 0.048109 | | 0.000 | 0.000 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 0.000 | 0.000 | 8.66E-10 | 0.009447 | U | 0.000 | 0.000 |
| OCDF | 0.001 | 0 | 0.000 | 1.81E-09 | 0.019745 | U | 0.0000 | 0.000 |
| TEQ Production Rate (mg/d) | | 0.00 | 0.01645 | | 0.00108 | | 0.00073 | 0.018 |
| Ave. of 3 runs (mg TEQ/day) | | | | | | | | |

<DL=0:

<DL=1/2DL:

<DL=DL:

Fort Lewis Incinerator - Ash

| Facility Lab | Fort Lewis Incinerator | | | | | | | | | |
|---------------------------------------|------------------------|------|-------------------|-----------|------|-------------------|---|-------------------|----------------|------------------|
| | Anatek Labs, Inc. | | | | | Anatek Labs, Inc. | | | | |
| Sample Name Sample Number Date | Ash, Fly | | | | | Ash, Bottom | | | | |
| | Value (ppb) | Q | 1996 | | | Value (ppb) | Q | 1996 | | |
| Units | | | TEQ (ppb) <DL= | | | | | TEQ (ppb) <DL= | | |
| Congener | TEF | | 0 | 1/2 DL | DL | | | 0 | 1/2 DL | DL |
| 2,3,7,8-TCDD | 1 | 0.18 | 0.18 | 0.18 | | 0.1 | U | - | | 0.10 |
| 1,2,3,7,8-PCDD | 0.5 | 1.6 | 0.80 | 0.80 | | 0.8 | U | - | | 0.40 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.9 | 0.09 | 0.09 | | 0.6 | U | - | | 0.06 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 1.3 | 0.13 | 0.13 | | 0.5 | U | - | | 0.05 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 2.0 | 0.20 | 0.20 | | 0.4 | U | - | | 0.04 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 14.2 | 0.14 | 0.14 | | 0.9 | U | - | | 0.01 |
| OCDD | 0.001 | 16.2 | 0.02 | 0.02 | | 1.0 | U | - | | 0.00 |
| 2,3,7,8-TCDF | 0.1 | 4.5 | 0.45 | 0.45 | | 0.1 | U | - | | 0.01 |
| 1,2,3,7,8-PCDF | 0.05 | 2.1 | 0.11 | 0.11 | | 0.6 | U | - | | 0.03 |
| 2,3,4,7,8-PCDF | 0.5 | 3.3 | 1.65 | 1.65 | | 0.6 | U | - | | 0.30 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 5.0 | 0.50 | 0.50 | | 0.7 | U | - | | 0.07 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 2.4 | 0.24 | 0.24 | | 0.7 | U | - | | 0.07 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 3.6 | 0.36 | 0.36 | | 0.5 | U | - | | 0.05 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 0.2 | U | - | 0.02 | 0.3 | U | - | | 0.03 |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 9.3 | 0.09 | 0.09 | | 0.5 | U | - | | 0.01 |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 1.3 | 0.01 | 0.01 | | 0.5 | U | - | | 0.01 |
| OCDF | 0.001 | 3.4 | 0.00 | 0.00 | | 0.9 | U | - | | 0.00 |
| EPA TEQ | | | 4.98 | 5.00 | | | | - | | 1.23 |
| Waste Production Rate (tons/yr) | Total | | Fly Ash | | | Bottom Ash | | | Total - 1996 | |
| | | | 61 | 61 | 61 | | | | 1,131 <DL=0 | <DL=1/2DL <DL=DL |
| TEQ Production Rate (mg/yr) | | | 0.76 | 0.76 | 0.76 | | | | 0.00 1.73 3.47 | 0.76 2.49 4.23 |

Georgia-Pacific

Facility Georgia-Pacific Corporation, Bellingham
 Lab Triangle Laboratories
 Sample Name Eff-E, composite (Ecology effluent sample)
 Sample Number 168142
 Date 4/14/93-4/15/93

Units pg/L pg/L pg/L pg/L pg/L
 TEQ TEQ TEQ TEQ
 (<DL=0 (<DL=1/2D (<DL=D

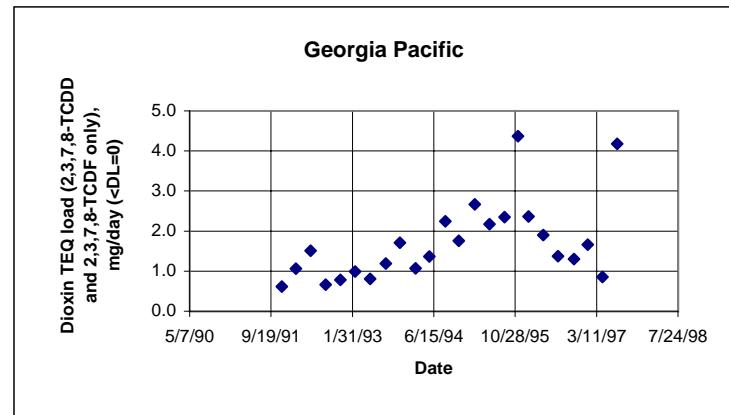
| Congener | TEF | Value | Qualifier |) | L) | L) |
|---------------------|-------|-------|-----------|---|----|-------|
| 2,3,7,8-TCDD | 1 | 6.9 | UJ | 0 | | 6.9 |
| 1,2,3,7,8-PCDD | 0.5 | 11.0 | U | 0 | | 5.5 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 14.5 | UJ | 0 | | 1.45 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 9.9 | UJ | 0 | | 0.99 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 11.6 | U | 0 | | 1.16 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 123 | UJ | 0 | | 1.23 |
| OCDD | 0.001 | 639 | UJ | 0 | | 0.639 |
| 2,3,7,8-TCDF | 0.1 | 23.2 | UJ | 0 | | 2.32 |
| 1,2,3,7,8-PCDF | 0.05 | 7.0 | U | 0 | | 0.35 |
| 2,3,4,7,8-PCDF | 0.5 | 7.1 | U | 0 | | 3.55 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 9.2 | U | 0 | | 0.92 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 5.8 | U | 0 | | 0.58 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 6.2 | UJ | 0 | | 0.62 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 9.4 | U | 0 | | 0.94 |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 9.1 | U | 0 | | 0.091 |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 15.4 | U | 0 | | 0.154 |
| OCDF | 0.001 | 43.0 | U | 0 | | 0.043 |

EPA TEQ (pg/L) 0.00 13.72 27.44

| | | |
|-----------------|------|------|
| Flow (MGD) | 34.8 | 34.8 |
| TEQ load (mg/D) | 0.00 | 1.81 |
| | 3.61 | |

Georgia-Pacific - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | | 2,3,7,8-TCDF TEF = 0.1 | | | Flow (MGD) | TEQ Load (mg/day) <DL= 1/2 DL | | | |
|-------------------------------------|-------------------------|--------------------|-----------|---------------------------|--------------------|-----------|-------------------|---|------|------|--|
| | Value (ppq) | TEQ (ppq) <DL = | 0 DL | Value (ppq) | TEQ (ppq) <DL = | 0 DL | | 0 | DL | DL | |
| Georgia Pacific - "Effluent" | | | | | | | | | | | |
| 11/25/91 | 10 U | 0 | 10 | 50 | 5 | 5 | 32.6 | 0.6 | 1.2 | 1.9 | |
| 2/19/92 | 10 U | 0 | 10 | 90 | 9 | 9 | 31.3 | 1.1 | 1.7 | 2.3 | |
| 5/20/92 | 20 U | 0 | 20 | 110 | 11 | 11 | 36.2 | 1.5 | 2.9 | 4.2 | |
| 8/19/92 | 10 U | 0 | 10 | 50 | 5 | 5 | 35 | 0.7 | 1.3 | 2.0 | |
| 11/18/92 | 10 U | 0 | 10 | 60 | 6 | 6 | 34.4 | 0.8 | 1.4 | 2.1 | |
| 2/17/93 | 10 U | 0 | 10 | 80 | 8 | 8 | 32.6 | 1.0 | 1.6 | 2.2 | |
| 5/19/93 | 10 U | 0 | 10 | 60 | 6 | 6 | 35.5 | 0.8 | 1.5 | 2.1 | |
| 8/25/93 | 10 U | 0 | 10 | 80 | 8 | 8 | 39.3 | 1.2 | 1.9 | 2.7 | |
| 11/18/93 | 10 U | 0 | 10 | 150 | 15 | 15 | 30.1 | 1.7 | 2.3 | 2.8 | |
| 2/23/94 | 10 U | 0 | 10 | 80 | 8 | 8 | 35.3 | 1.1 | 1.7 | 2.4 | |
| 5/19/94 | 10 U | 0 | 10 | 90 | 9 | 9 | 40.1 | 1.4 | 2.1 | 2.9 | |
| 8/25/94 | 10 U | 0 | 10 | 180 | 18 | 18 | 32.9 | 2.2 | 2.9 | 3.5 | |
| 11/16/94 | 10 U | 0 | 10 | 110 | 11 | 11 | 42.3 | 1.8 | 2.6 | 3.4 | |
| 2/22/95 | 10 U | 0 | 10 | 260 | 26 | 26 | 27.1 | 2.7 | 3.2 | 3.7 | |
| 5/24/95 | 10 U | 0 | 10 | 180 | 18 | 18 | 31.9 | 2.2 | 2.8 | 3.4 | |
| 8/23/95 | 10 U | 0 | 10 | 160 | 16 | 16 | 38.8 | 2.3 | 3.1 | 3.8 | |
| 11/15/95 | 10 U | 0 | 10 | 280 | 28 | 28 | 41.2 | 4.4 | 5.1 | 5.9 | |
| 1/17/96 | 10 U | 0 | 10 | 150 | 15 | 15 | 41.7 | 2.4 | 3.2 | 3.9 | |
| 4/17/96 | 10 | 10 | 10 | 70 | 7 | 7 | 29.5 | 1.9 | 1.9 | 1.9 | |
| 7/17/96 | 10 U | 0 | 10 | 110 | 11 | 11 | 33 | 1.4 | 2.0 | 2.6 | |
| 10/23/96 | 10 U | 0 | 10 | 90 | 9 | 9 | 38.3 | 1.3 | 2.0 | 2.8 | |
| 1/15/97 | 10 U | 0 | 10 | 130 | 13 | 13 | 33.8 | 1.7 | 2.3 | 2.9 | |
| 4/16/97 | 10 U | 0 | 10 | 60 | 6 | 6 | 37.6 | 0.9 | 1.6 | 2.3 | |
| 7/16/97 | 10 U | 0 | 10 | 280 | 28 | 28 | 39.4 | 4.2 | 4.9 | 5.7 | |
| Low | | | | | | | | 0.62 | 1.23 | 1.85 | |
| Average | | | | | | | | 1.71 | 2.38 | 3.06 | |
| High | | | | | | | | 4.37 | 5.15 | 4.25 | |
| Count | | | | | | | | 24 | | | |



Holnam Cement Kiln - Cement Kiln Dust

| Facility Lab Sample Name Date | Holnam Cement Kiln Triangle via Ecology Cement Kiln Dust Conducted 5/15/96 | | | Holnam Quanterra HLMN Bin, 095839-0003-SA 10/21/97 | | | Holnam Quanterra HLMN Final, 095839-0004-SA 10/21/97 | | | | | |
|--|---|---------------|--------|---|---------------|--------|---|---------------|-------|--------|-------|-------|
| | Units | TEQ (ng/dscm) | | | TEQ (ng/dscm) | | | TEQ (ng/dscm) | | | | |
| | | ng/kg | Qual. | <DL= | pg/g | Qual. | <DL= | pg/g | Qual. | <DL= | | |
| Congener | TEF | | | | | | | | | | | |
| | | 0 | DL | DL | 0 | DL | DL | 0 | DL | | | |
| 2,3,7,8-TCDD | 1 | 0.4 U | 0 | 0.4 | 0.2 U | ##### | ##### | 0.3 U | ##### | ##### | | |
| 1,2,3,7,8-PCDD | 0.5 | 0.7 U | 0 | 0.35 | 0.5 U | ##### | ##### | 0.3 U | ##### | ##### | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.6 U | 0 | 0.06 | 0.6 U | ##### | ##### | 0.5 U | ##### | ##### | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.6 U | 0 | 0.06 | 0.5 U | ##### | ##### | 1.2 U | ##### | ##### | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.6 U | 0 | 0.06 | 0.5 U | ##### | ##### | 1.2 U | ##### | ##### | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 5.9 UJ | 0 | 0.059 | 3.6 J | ##### | ##### | 27 J | ##### | ##### | | |
| OCDD | 0.001 | 37.2 | 0.0372 | 0.0372 | 18 J | ##### | ##### | 210 J | ##### | ##### | | |
| 2,3,7,8-TCDF | 0.1 | 0.89 UJ | 0 | 0.089 | 6.2 g | ##### | ##### | 4.6 g | ##### | ##### | | |
| 1,2,3,7,8-PCDF | 0.05 | 0.5 U | 0 | 0.025 | 1.4 U | ##### | ##### | 1 U | ##### | ##### | | |
| 2,3,4,7,8-PCDF | 0.5 | 0.4 U | 0 | 0.2 | 1.3 U | ##### | ##### | 1.9 U | ##### | ##### | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.5 U | 0 | 0.05 | 0.2 U | ##### | ##### | 0.6 U | ##### | ##### | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.4 U | 0 | 0.04 | 0.2 U | ##### | ##### | 0.2 U | ##### | ##### | | |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.29 UJ | 0 | 0.029 | 0.3 U | ##### | ##### | 0.5 U | ##### | ##### | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.5 U | 0 | 0.05 | 0.3 U | ##### | ##### | 0.3 U | ##### | ##### | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.39 UJ | 0 | 0.0039 | 0.3 U | ##### | ##### | 1.4 U | ##### | ##### | | |
| 1,2,3,4,7,8,9-HpC | 0.01 | 0.6 U | 0 | 0.006 | 0.3 U | ##### | ##### | 0.3 U | ##### | ##### | | |
| OCDF | 0.001 | 0.76 J | 0.0008 | 0.0008 | 1.3 U | ##### | ##### | 8 J | ##### | ##### | | |
| EPA TEQ | | | 0.0380 | 1.5 | | 0.67 | 1.37 | 2.07 | | 0.95 | 1.91 | 2.87 |
| Waste Production Rate (tons/day) | | | 110 | 110 | | 110 | 110 | 110 | | 110 | 110 | 110 |
| TEQ Production Rate (mg/d) | | | 0.0038 | ##### | 0.1520 | 0.0674 | 0.137 | 0.207 | | 0.0948 | 0.191 | 0.287 |

Holnam Cement Kiln - Air Emissions (page 19 of 33)

| Facility Lab | Holnam Cement Kiln | | | | | | | |
|---------------------|--------------------------------|-----|----------------|---------------|------------------------------|---------------|---------------|---------------|
| Sample Name | Air Emissions -- Sterifuel Off | | | | Air Emissions-- Sterifuel On | | | |
| Sample Number | Conducted 7/24-28/95 | | | | Conducted 7/24-28/95 | | | |
| Date | Units | TEF | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min |
| Congener | | | ng/min | Q (<DL=0) | ng/min | Q (<DL=0) | ng/min | ng/min |
| 2,3,7,8-TCDD | 1 | | 157 | 157 | 157 | 353.9 | 353.9 | 353.9 |
| 1,2,3,7,8-PCDD | 0.5 | | 71.6 U | 0 | 35.8 | 164.7 | 82.35 | 82.35 |
| 1,2,3,4,7,8-HxCDD | 0.1 | | 71.5 U | 0 | 7.15 | 65.4 U | 0 | 6.54 |
| 1,2,3,6,7,8-HxCDD | 0.1 | | 71.5 U | 0 | 7.15 | 206.3 | 20.63 | 20.63 |
| 1,2,3,7,8,9-HxCDD | 0.1 | | 71.5 U | 0 | 7.15 | 126 | 12.6 | 12.6 |
| 1,2,3,4,6,7,8-HpC | 0.01 | | 351.4 | 3.514 | 3.514 | 706.4 | 7.064 | 7.064 |
| OCDD | 0.001 | | 571.4 | 0.5714 | 0.5714 | 960.9 | 0.9609 | 0.9609 |
| 2,3,7,8-TCDF | 0.1 | | 2597 J | 259.7 | 259.7 | 6112 | 611.2 | 611.2 |
| 1,2,3,7,8-PCDF | 0.05 | | 230.6 | 11.53 | 11.53 | 1183 U | 0 | 59.15 |
| 2,3,4,7,8-PCDF | 0.5 | | 622.8 | 311.4 | 311.4 | 1724 | 862 | 862 |
| 1,2,3,4,7,8-HxCDD | 0.1 | | 250.8 U | 0 | 25.08 | 410.6 U | 0 | 41.06 |
| 1,2,3,6,7,8-HxCDD | 0.1 | | 71.6 U | 0 | 7.16 | 187.3 | 18.73 | 18.73 |
| 2,3,4,6,7,8-HxCDD | 0.1 | | 82.2 J | 8.22 | 8.22 | 282.9 | 28.29 | 28.29 |
| 1,2,3,7,8,9-HxCDD | 0.1 | | 71.6 U | 0 | 7.16 | 65.4 U | 0 | 6.54 |
| 1,2,3,4,6,7,8-HpC | 0.01 | | 155.1 J | 1.551 | 1.551 | 370.5 | 3.705 | 3.705 |
| 1,2,3,4,7,8,9-HpC | 0.01 | | 71.6 U | 0 | 0.716 | 69.8 U | 0 | 0.698 |
| OCDF | 0.001 | | 143.1 U | 0 | 0.1431 | 130.7 U | 0 | 0.1307 |
| EPA TEQ | | | | 753.5 | 851.0 | | 2001.4 | 2115.5 |
| TEQ load (mg/D) | | | | 1.09 | 1.23 | | 2.88 | 3.05 |
| Final load (mg/day) | | | <DL=0 | 1.09 | | <DL=0 | 2.88 | |
| | | | <DL=1/2DL | 1.16 | | <DL=1/2DL | 2.96 | |
| | | | <DL=DL | 1.23 | | <DL=DL | 3.05 | |

Holnam Cement Kiln - Air Emissions (page 20 of 33)

| Facility Lab | Holnam Cement Kiln | | | | | | | | | | | |
|---------------------|------------------------------|------------------------------|---------------------------------|---------------|---------------|------------------------------|---------------|---------------|---------------|---------------|---------------|----------|
| Sample Name | Run1 Conducted 5/26-27/94 | Run2 Conducted 5/26-27/94 | | | | Run3 Conducted 5/26-27/94 | | | | | | |
| Sample Number | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | |
| Date | Units Congener | TEF | ng/min | Q | (<DL=0) | ng/min | Q | (<DL=0) | ng/min | Q | (<DL=0) | (<DL=DL) |
| 2,3,7,8-TCDD | 1 | 86.4 | 86.4 | | 86.4 | 81 | 81 | 81 | 91.6 | 91.6 | 91.6 | |
| 1,2,3,7,8-PCDD | 0.5 | 79.5 | 39.75 | | 39.75 | 91.9 U | 0 | 45.95 | 98.5 U | 0 | 49.25 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 76.5 | 7.65 | | 7.65 | 40.5 | 4.05 | 4.05 | 36.4 | 3.64 | 3.64 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 129.2 | 12.92 | | 12.92 | 128.4 | 12.84 | 12.84 | 118.1 | 11.81 | 11.81 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 78.5 | 7.85 | | 7.85 | 98.8 | 9.88 | 9.88 | 88.6 | 8.86 | 8.86 | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 864.5 J | 8.645 | | 8.645 | 859.3 | 8.593 | 8.593 | 945.1 | 9.451 | 9.451 | |
| OCDD | 0.001 | 1789 | 1.789 | | 1.789 | 1975 | 1.975 | 1.975 | 5710 | 5.71 | 5.71 | |
| 2,3,7,8-TCDF | 0.1 | 1689 | 168.9 | | 168.9 | 1383 | 138.3 | 138.3 | 984.5 | 98.45 | 98.45 | |
| 1,2,3,7,8-PCDF | 0.05 | 904.2 U | 0 | | 45.21 | 177.8 U | 0 | 8.89 | 639.9 U | 0 | 31.995 | |
| 2,3,4,7,8-PCDF | 0.5 | 536.6 | 268.3 | | 268.3 | 375.3 | 187.65 | 187.65 | 265.8 | 132.9 | 132.9 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 168.9 | 16.89 | | 16.89 | 158 | 15.8 | 15.8 | 91.6 | 9.16 | 9.16 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 51.7 | 5.17 | | 5.17 | 53.3 | 5.33 | 5.33 | 43.3 | 4.33 | 4.33 | |
| 2,3,4,6,7,8-HxCDD | 0.1 | 75.5 U | 0 | | 7.55 | 88.9 | 8.89 | 8.89 | 57.1 | 5.71 | 5.71 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 26.8 U | 0 | | 2.68 | 33.6 U | 0 | 3.36 | 32.5 U | 0 | 3.25 | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 96.4 | 0.964 | | 0.964 | 118.5 | 1.185 | 1.185 | 157.5 U | 0 | 1.575 | |
| 1,2,3,4,7,8,9-HpC | 0.01 | 34.8 U | 0 | | 0.348 | 31.6 U | 0 | 0.316 | 91.6 U | 0 | 0.916 | |
| OCDF | 0.001 | 63.6 | 0.0636 | | 0.0636 | 80 | 0.08 | 0.08 | 275.7 | 0.2757 | 0.2757 | |
| EPA TEQ | | | 625.3 | | 681.1 | | | | | 475.6 | 534.1 | |
| TEQ load (mg/D) | | | 0.90 | | 0.98 | | | | | 0.68 | 0.77 | |
| Final load (mg/day) | | | Average of 3 runs (5/26-27/94): | | | | | | | | | |
| | | | <DL=0 | | 0.71 | | | | | | | |
| | | | <DL=1/2DL | | 0.76 | | | | | | | |
| | | | <DL=DL | | 0.81 | | | | | | | |

Holnam Cement Kiln - Air Emissions (page 21 of 33)

Facility
Lab

Sample Name
Sample Number
Date

Holnam Cement Kiln

| Units Congener | TEF | 'Baseline' (before Sterifuel) | | | | | |
|---------------------|-------|--------------------------------------|---------------|---------------|---------------------------|---------------|---------------|
| | | Run1 Conducted 7/8/96 | | | Run 2 Conducted 7/8/96 | | |
| | | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min | TEQ ng/min |
| 2,3,7,8-TCDD | 1 | 187.5 | 187.5 | 187.5 | 140.9 | 140.9 | 140.9 |
| 1,2,3,7,8-PCDD | 0.5 | 97.8 U | 0 | 48.9 | 65.5 U | 0 | 32.75 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 43.2 U | 0 | 4.32 | 53.1 U | 0 | 5.31 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 97.8 U | 0 | 9.78 | 82.9 U | 0 | 8.29 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 97.8 U | 0 | 9.78 | 82.9 U | 0 | 8.29 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 391.3 J | 3.913 | 3.913 | 323.3 | 3.233 | 3.233 |
| OCDD | 0.001 | 635.9 J | 0.6359 | 0.6359 | 489.1 U | 0 | 0.4891 |
| 2,3,7,8-TCDF | 0.1 | 978.3 | 97.83 | 97.83 | 1078 | 107.8 | 107.8 |
| 1,2,3,7,8-PCDF | 0.05 | 481 J | 24.05 | 24.05 | 505.7 J | 25.285 | 25.285 |
| 2,3,4,7,8-PCDF | 0.5 | 676.7 | 338.35 | 338.35 | 663.2 | 331.6 | 331.6 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 733.8 | 73.38 | 73.38 | 671.5 | 67.15 | 67.15 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 676.7 | 67.67 | 67.67 | 563.7 J | 56.37 | 56.37 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 521.8 J | 52.18 | 52.18 | 489.1 J | 48.91 | 48.91 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 114.1 U | 0 | 11.41 | 99.5 U | 0 | 9.95 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 3098 | 30.98 | 30.98 | 2901 | 29.01 | 29.01 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 366.9 J | 3.669 | 3.669 | 339.9 J | 3.399 | 3.399 |
| OCDF | 0.001 | 5055 | 5.055 | 5.055 | 4642 | 4.642 | 4.642 |
| EPA TEQ | | | 885.2 | 969.4 | | 818.3 | 883.4 |
| TEQ load (mg/D) | | | 1.27 | 1.40 | | 1.18 | 1.27 |
| Final load (mg/day) | | Average of 2 runs, 7/8/96, baseline: | | | | | |
| | | <DL=0 | 1.23 | | | | |
| | | <DL=1/2DL | 1.28 | | | | |
| | | <DL=DL | 1.33 | | | | |

Holnam Cement Kiln - Air Emissions (page 22 of 33)

Facility
Lab
Sample Name
Sample Number
Date

Holnam Cement Kiln

| "With Sterifuel" | | | | | | |
|---|---|--------------------|---------------------|-------------------|---|----------------------|
| Conducted 7/9/96 | | | | Conducted 7/10/96 | | |
| ng/min | Q | TEQ ng/min (<DL=0) | TEQ ng/min (<DL=DL) | ng/min | Q | TEQ ng/min (<DL=0) (|
| 144.5 | | 144.5 | 144.5 | 106.1 | U | 0 |
| 68.8 | U | 0 | 34.4 | 70.2 | U | 0 |
| 31.4 | U | 0 | 3.14 | 26.9 | U | 0 |
| 59.5 | U | 0 | 5.95 | 71.8 | U | 0 |
| 57.8 | U | 0 | 5.78 | 73.5 | U | 0 |
| 263.4 | U | 0 | 2.634 | 302 | U | 0 |
| 416.4 | U | 0 | 0.4164 | 449 | U | 0 |
| 1020 | | 102 | 102 | 816.3 | | 81.63 |
| 501.4 | J | 25.07 | 25.07 | 416.3 | J | 20.815 |
| 645.8 | | 322.9 | 322.9 | 587.8 | J | 293.9 |
| 552.4 | J | 55.24 | 55.24 | 718.4 | | 71.84 |
| 467.4 | J | 46.74 | 46.74 | 604.1 | J | 60.41 |
| 407.9 | J | 40.79 | 40.79 | 489.8 | J | 48.98 |
| 72.2 | U | 0 | 7.22 | 70.2 | U | 0 |
| 2464 | | 24.64 | 24.64 | 3184 | | 31.84 |
| 297.4 | U | 0 | 2.974 | 408.2 | J | 4.082 |
| 4674 | | 4.674 | 4.674 | 6041 | | 6.041 |
| | | 766.6 | 829.1 | | | 619.5 |
| | | 1.10 | 1.19 | | | 0.89 |
| | | | | | | 1.14 |
| Average of 2 runs, 7/9-10/96, with sterifuel: | | | | | | |
| <DL=0 | | 1.00 | | | | |
| <DL=1/2DL | | 1.08 | | | | |
| <DL=DL | | 1.16 | | | | |

Holnam Cement Kiln - Air Emissions (page 23 of 33)

Facility
Lab
Sample Name
Sample Number
Date

Holnam Cement Kiln

| "After Sterifuel" | | | | | | |
|-------------------|---|--------------------|---------------------|-------------------|---|--------------------|
| Conducted 7/11/96 | | | | Conducted 7/11/96 | | |
| ng/min | Q | TEQ ng/min (<DL=0) | TEQ ng/min (<DL=DL) | ng/min | Q | TEQ ng/min (<DL=0) |
| 98 | | 98 | 98 | 122.1 | | 122.1 |
| 54.9 U | | 0 | 27.45 | 70.7 U | | 0 |
| 26.8 U | | 0 | 2.68 | 32.1 U | | 0 |
| 54.2 U | | 0 | 5.42 | 96.4 U | | 0 |
| 57.5 U | | 0 | 5.75 | 102.8 U | | 0 |
| 222.1 U | | 0 | 2.221 | 366.3 | | 3.663 |
| 274.4 U | | 0 | 0.2744 | 475.5 U | | 0 |
| 784 | | 78.4 | 78.4 | 642.6 | | 64.26 |
| 274.4 | | 13.72 | 13.72 | 237.8 U | | 0 |
| 378.9 | | 189.45 | 189.45 | 334.1 J | | 167.05 |
| 307.1 | | 30.71 | 30.71 | 353.4 J | | 35.34 |
| 241.7 U | | 0 | 24.17 | 257 J | | 25.7 |
| 222.1 U | | 0 | 22.21 | 257 J | | 25.7 |
| 29.4 U | | 0 | 2.94 | 41.1 U | | 0 |
| 1176 | | 11.76 | 11.76 | 1285 | | 12.85 |
| 130.7 U | | 0 | 1.307 | 179.9 U | | 0 |
| 2287 | | 2.287 | 2.287 | 2378 | | 2.378 |
| | | 424.3 | 518.7 | | | 459.0 |
| | | 0.61 | 0.75 | | | 0.66 |
| | | | | | | 0.77 |

Kaiser

| | | | | | | | | |
|-------------------|--|---------|-------------------|---|----------------------|-------------------|--------|----------------------|
| Facility | Kaiser Aluminum and Chemical Corporation, Trentwood Works, Spokane, WA | | | | | | | |
| Sample Name | Air Emissions - DC#2 EAST & WEST MELTER; DC#2 HOLDER | | | | | | | |
| File Name | R340-2\KTWFDSM1 | | | | | | | |
| Lab | Quanterra | | | | | | | |
| Sample Number | Run 1 6/18/96 | | | | Run 2 6/19/96 | | | |
| Date | Congener | TEF | Value (ng/min) | Q | TEQ (ng/min) <DL= | Value (ng/min) | Q | TEQ (ng/min) <DL= |
| | | | | | 0 DL | | | 0 DL |
| 2,3,7,8-TCDD | 1 | 0.964 U | | 0 | 0.964 | 5.12 U | | 0 5.12 |
| 1,2,3,7,8-PCDD | 0.5 | 1.45 U | | 0 | 0.03045 | 5.88 U | | 0 2.94 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 1.45 U | | 0 | 0.00551 | 5.22 U | | 0 0.522 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 1.45 U | | 0 | 0.0058 | 13.1 U | | 0 1.31 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 1.65 U | | 0 | 0.01056 | 14.2 U | | 0 1.42 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 3.58 U | | 0 | 0.001969 | 58.8 | | 0.588 0.588 |
| OCDD | 0.001 | 15.2 U | | 0 | 0.007494 | 75.1 J | 0.0751 | 0.0751 |
| 2,3,7,8-TCDF | 0.1 | 2.07 U | | 0 | 0.003105 | 15.2 | | 1.52 1.52 |
| 1,2,3,7,8-PCDF | 0.05 | 0.964 U | | 0 | 0.001205 | 23.9 U | | 0 1.195 |
| 2,3,4,7,8-PCDF | 0.5 | 1.38 U | | 0 | 0.01449 | 47.9 J | 23.95 | 23.95 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 1.45 U | | 0 | 0.002755 | 56.6 | | 5.66 5.66 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.964 U | | 0 | 0.001446 | 31.6 J | | 3.16 3.16 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 1.58 U | | 0 | 0.003002 | 72.9 | | 7.29 7.29 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.827 U | | 0 | 0.001902 | 5.12 U | | 0 0.512 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 2.55 U | | 0 | 0.000867 | 100.1 | | 1.001 1.001 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 4.27 U | | 0 | 0.001068 | 33.7 J | | 0.337 0.337 |
| OCDF | 0.001 | 5.65 U | | 0 | 0.000192 | 87.1 | 0.0871 | 0.0871 |
| EPA TEQ (ng/min) | | | | | 0.00 1.06 | | | 43.67 56.69 |
| TEQ load (mg/D) | | | | | 0.0000 0.001520 | | | 0.0629 0.0816 |

Ave. of 3 runs (mg TEQ/day) one melt all melters (10)

| | | |
|------------|--------|-------|
| <DL=0: | 0.0314 | 0.314 |
| <DL=1/2DL: | 0.0365 | 0.365 |
| <DL=DL: | 0.0416 | 0.416 |

Kalama Chemical (page 25 of 33)

| Facility Lab | Kalama Chemical -- U-3 Boiler Trial Burn | | | | | | | | | | | |
|--------------------------|--|----------------|-----------------------------|----------------|-----------------------------|----------------|-----------------------------|----------------|-----------------------------|----------------|-----------------------------|--|
| Sample Name Date | Run 1 6/25/96 | | | | Run 2 6/26/96 | | | | Run 3 6/27/96 | | | |
| Units Congener | TEF | TEQ ng/dscm | TEQ ng/dscm (<DL=D L) | |
| 2,3,7,8-TCDD | 1 | 0.002 | U 0 0.002 | 0.0032 | U 0 0.0032 | 0.0024 | U 0 0.0024 | 0.0024 | U 0 0.0024 | 0.0024 | U 0 0.0024 | |
| 1,2,3,7,8-PCDD | 0.5 | 0.0013 | U 0 0.0007 | 0.0014 | U 0 0.0007 | 0.0007 | U 0 0.0004 | 0.0007 | U 0 0.0004 | 0.0007 | U 0 0.0004 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.0012 | U 0 0.0001 | 0.0015 | U 0 0.0002 | 0.0008 | U 0 8E-05 | 0.0008 | U 0 8E-05 | 0.0008 | U 0 8E-05 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.0026 | U 0 0.0003 | 0.0048 | U 0 0.0005 | 0.0035 | U 0 0.0004 | 0.0035 | U 0 0.0004 | 0.0035 | U 0 0.0004 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.0026 | U 0 0.0003 | 0.0039 | U 0 0.0004 | 0.0023 | U 0 0.0002 | 0.0023 | U 0 0.0002 | 0.0023 | U 0 0.0002 | |
| 1,2,3,4,6,7,8-HpCD | 0.01 | 0.0129 | U 0 0.0001 | 0.0746 | 0.0007 0.0007 | 0.0337 | J 0.0003 0.0003 | 0.0337 | J 0.0003 0.0003 | 0.0337 | J 0.0003 0.0003 | |
| OCDD | 0 | 0.042 | J 4.2E-05 4E-05 | 0.298 | 0.0003 0.0003 | 0.135 | 0.0001 0.0001 | 0.135 | 0.0001 0.0001 | 0.135 | 0.0001 0.0001 | |
| 2,3,7,8-TCDF | 0.1 | 0.0042 | J 0.00042 0.0004 | 0.0048 | J 0.0005 0.0005 | 0.0032 | U 0 0.0003 | 0.0032 | U 0 0.0003 | 0.0032 | U 0 0.0003 | |
| 1,2,3,7,8-PCDF | 0.05 | 0.0016 | U 0 8E-05 | 0.0019 | U 0 1E-04 | 0.0011 | U 0 6E-05 | 0.0011 | U 0 6E-05 | 0.0011 | U 0 6E-05 | |
| 2,3,4,7,8-PCDF | 0.5 | 0.002 | U 0 0.001 | 0.0033 | U 0 0.0017 | 0.0021 | U 0 0.0011 | 0.0021 | U 0 0.0011 | 0.0021 | U 0 0.0011 | |
| 1,2,3,4,7,8-HxCDF | 0.1 | 0.0026 | U 0 0.0003 | 0.0029 | U 0 0.0003 | 0.0022 | U 0 0.0002 | 0.0022 | U 0 0.0002 | 0.0022 | U 0 0.0002 | |
| 1,2,3,6,7,8-HxCDF | 0.1 | 0.0017 | U 0 0.0002 | 0.0019 | U 0 0.0002 | 0.0016 | U 0 0.0002 | 0.0016 | U 0 0.0002 | 0.0016 | U 0 0.0002 | |
| 2,3,4,6,7,8-HxCDF | 0.1 | 0.0024 | U 0 0.0002 | 0.0028 | U 0 0.0003 | 0.0017 | U 0 0.0002 | 0.0017 | U 0 0.0002 | 0.0017 | U 0 0.0002 | |
| 1,2,3,7,8,9-HxCDF | 0.1 | 0.002 | U 0 0.0002 | 0.0008 | U 0 8E-05 | 0.0004 | U 0 4E-05 | 0.0004 | U 0 4E-05 | 0.0004 | U 0 4E-05 | |
| 1,2,3,4,6,7,8-HpCD | 0.01 | 0.0068 | U 0 7E-05 | 0.0061 | U 0 6E-05 | 0.0037 | U 0 4E-05 | 0.0037 | U 0 4E-05 | 0.0037 | U 0 4E-05 | |
| 1,2,3,4,7,8,9-HpCD | 0.01 | 0.0028 | U 0 3E-05 | 0.0019 | U 0 2E-05 | 0.0016 | U 0 2E-05 | 0.0016 | U 0 2E-05 | 0.0016 | U 0 2E-05 | |
| OCDF | 0 | 0.014 | U 0 1E-05 | 0.009 | U 0 9E-06 | 0.007 | U 0 7E-06 | 0.007 | U 0 7E-06 | 0.007 | U 0 7E-06 | |
| EPA TEQ | | | 0.00046 0.0059 | | 0.0015 0.0091 | | | 0.0005 | 0.006 | | | |
| Gas flow Rate (dscf/min) | | | 10260 10260 | | 9582 9582 | | | 10092 | 10092 | | | |
| TEQ Loading (mg TEQ/day) | | | 0.00019 0.0025 | | 0.0006 0.0036 | | | 0.0002 | 0.0025 | | | |

Average of 6 runs (mg/day):

<DL=0 0.00029

<DL=1/2DL 0.00216

<DL=DL 0.00403

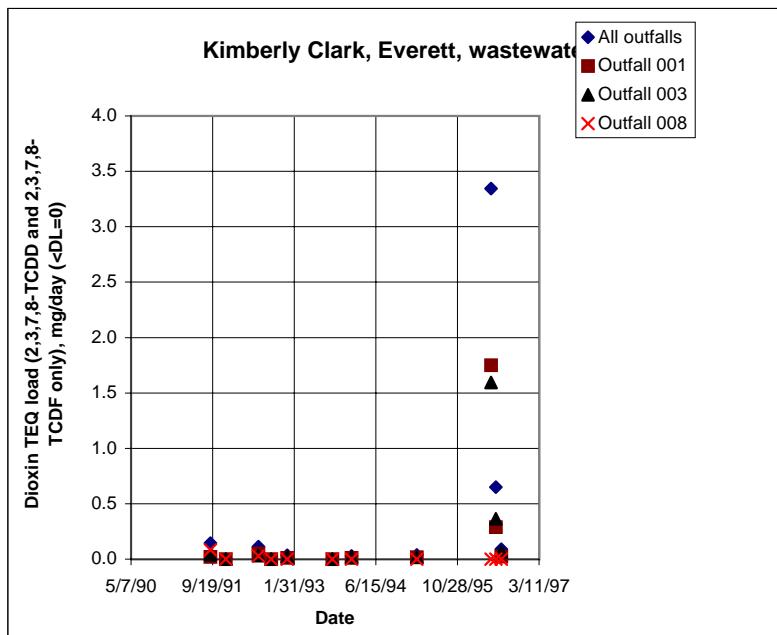
Kalama Chemical (page 26 of 33)

| Facility Lab | Kalama Chemical -- U-3 Boiler Trial Burn | | | | | | | |
|--------------------------|--|----------------|-----------------------------------|------------------|-----------------------------------|----------------|-----------------------------------|--|
| Sample Name Date | Run 4 6/28/96 | | | Run 5 6/29/96 | | | Run 6 6/30/96 | |
| Units Congener | TEF | TEQ ng/dscm | TEQ ng/dscm (<DL=D ng/dscm) | TEQ ng/dscm | TEQ ng/dscm (<DL=D ng/dscm) | TEQ ng/dscm | TEQ ng/dscm (<DL=D ng/dscm) | |
| 2,3,7,8-TCDD | 1 | 0.0036 | U 0 0.0036 | 0.0035 | U 0 0.0035 | 0.0087 | U 0 0.0087 | |
| 1,2,3,7,8-PCDD | 0.5 | 0.0018 | U 0 0.0009 | 0.0026 | U 0 0.0013 | 0.0068 | U 0 0.0034 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.0112 | U 0 0.0011 | 0.0008 | U 0 8E-05 | 0.0164 | U 0 0.0016 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.0103 | U 0 0.001 | 0.0148 | U 0 0.0015 | 0.0155 | U 0 0.0016 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.0117 | U 0 0.0012 | 0.0104 | U 0 0.001 | 0.0174 | U 0 0.0017 | |
| 1,2,3,4,6,7,8-HpCD | 0.01 | 0.0364 | J 0.0004 0.0004 | 0.0888 | 0.0009 0.0009 | 0.0352 | J 0.0004 0.0004 | |
| OCDD | 0 | 0.157 | 0.0002 0.0002 | 0.286 | 0.0003 0.0003 | 0.135 | 0.0001 0.0001 | |
| 2,3,7,8-TCDF | 0.1 | 0.0034 | U 0 0.0003 | 0.0022 | U 0 0.0002 | 0.0045 | U 0 0.0005 | |
| 1,2,3,7,8-PCDF | 0.05 | 0.0023 | U 0 0.0001 | 0.0027 | U 0 0.0001 | 0.0053 | U 0 0.0003 | |
| 2,3,4,7,8-PCDF | 0.5 | 0.002 | U 0 0.001 | 0.0038 | U 0 0.0019 | 0.0048 | U 0 0.0024 | |
| 1,2,3,4,7,8-HxCDF | 0.1 | 0.0022 | U 0 0.0002 | 0.0043 | U 0 0.0004 | 0.0033 | U 0 0.0003 | |
| 1,2,3,6,7,8-HxCDF | 0.1 | 0.0017 | U 0 0.0002 | 0.0031 | U 0 0.0003 | 0.002 | U 0 0.0002 | |
| 2,3,4,6,7,8-HxCDF | 0.1 | 0.0022 | U 0 0.0002 | 0.0047 | U 0 0.0005 | 0.0033 | U 0 0.0003 | |
| 1,2,3,7,8,9-HxCDF | 0.1 | 0.0009 | U 0 9E-05 | 0.0011 | U 0 0.0001 | 0.0015 | U 0 0.0002 | |
| 1,2,3,4,6,7,8-HpCD | 0.01 | 0.0006 | U 0 6E-06 | 0.0069 | U 0 7E-05 | 0.0121 | U 0 0.0001 | |
| 1,2,3,4,7,8,9-HpCD | 0.01 | 0.0002 | U 0 2E-06 | 0.0033 | U 0 3E-05 | 0.0053 | U 0 5E-05 | |
| OCDF | 0 | 0.0007 | U 0 7E-07 | 0.012 | U 0 1E-05 | 0.015 | U 0 2E-05 | |
| EPA TEQ | | | 0.0005 0.0105 | | 0.0012 0.0123 | | 0.0005 0.0218 | |
| Gas flow Rate (dscf/min) | | | 8971 8971 | | 8286 8286 | | 8562 8562 | |
| TEQ Loading (mg TEQ/da) | | | 0.0002 0.0039 | | 0.0004 0.0042 | | 0.0002 0.0076 | |

<

Kimberly Clark - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | | 2,3,7,8-TCDF TEF = 0.1 | | | Flow (MGD) | TEQ Load (mg/day) <DL= 1/2 | | | |
|--|-------------------------|--------------------|------|---------------------------|--------------------|------|-------------------|-------------------------------------|------|------|--|
| | Value (ppq) | TEQ (ppq) <DL = | 0 DL | Value (ppq) | TEQ (ppq) <DL = | 0 DL | | 0 | DL | DL | |
| Kimberly Clark, Everett - "Outfall 001" | | | | | | | | | | | |
| 9/5/91 | 4.5 U | 0 | 4.5 | 8.1 | 0.81 | 0.81 | 6.6 | 0.02 | 0.08 | 0.13 | |
| 12/9/91 | 9.6 U | 0 | 9.6 | 6.2 U | 0 | 0.62 | 7 | 0.00 | 0.14 | 0.27 | |
| 6/26/92 | 3.8 U | 0 | 3.8 | 24 | 2.4 | 2.4 | 5.8 | 0.05 | 0.09 | 0.14 | |
| 9/12/92 | 2.1 U | 0 | 2.1 | 3.3 U | 0 | 0.33 | 6 | 0.00 | 0.03 | 0.06 | |
| 12/19/92 | 3.4 U | 0 | 3.4 | 6.8 | 0.68 | 0.68 | 4.9 | 0.01 | 0.04 | 0.08 | |
| 9/21/93 | 3.0 U | 0 | 3 | 4.8 U | 0 | 0.48 | 5.9 | 0.00 | 0.04 | 0.08 | |
| 1/17/94 | 3.5 U | 0 | 3.5 | 5.6 | 0.56 | 0.56 | 5.8 | 0.01 | 0.05 | 0.09 | |
| 2/21/95 | 4.4 U | 0 | 4.4 | 8.4 | 0.84 | 0.84 | 5.9 | 0.02 | 0.07 | 0.12 | |
| 5/21/96 | 53.0 | 53 | 53 | 160 | 16 | 16 | 6.7 | 1.75 | 1.75 | 1.75 | |
| 6/20/96 | 9.2 | 9.2 | 9.2 | 37 | 3.7 | 3.7 | 5.9 | 0.29 | 0.29 | 0.29 | |
| 7/23/96 | 4.9 U | 0 | 4.9 | 10 | 1 | 1 | 6 | 0.02 | 0.08 | 0.13 | |
| Kimberly Clark, Everett - "Outfall 003" | | | | | | | | | | | |
| 9/5/91 | 4.5 U | 0 | 4.5 | 9.4 | 0.94 | 0.94 | 11.2 | 0.04 | 0.14 | 0.23 | |
| 12/9/91 | 7.8 U | 0 | 7.8 | 5.4 U | 0 | 0.54 | 11.8 | 0.00 | 0.19 | 0.37 | |
| 6/26/92 | 2.9 U | 0 | 2.9 | 8.7 | 0.87 | 0.87 | 9.8 | 0.03 | 0.09 | 0.14 | |
| 9/12/92 | 2.3 U | 0 | 2.3 | 2.3 U | 0 | 0.23 | 10.2 | 0.00 | 0.05 | 0.10 | |
| 12/19/92 | 3.8 U | 0 | 3.8 | 7 | 0.7 | 0.7 | 8.3 | 0.02 | 0.08 | 0.14 | |
| 9/21/93 | 2.7 U | 0 | 2.7 | 5.0 U | 0 | 0.5 | 10.1 | 0.00 | 0.06 | 0.12 | |
| 1/17/94 | 3.3 U | 0 | 3.3 | 4.5 | 0.45 | 0.45 | 9.8 | 0.02 | 0.08 | 0.14 | |
| 2/21/95 | 4.6 U | 0 | 4.6 | 8.4 | 0.84 | 0.84 | 5.5 | 0.02 | 0.07 | 0.11 | |
| 5/21/96 | 38 | 38 | 38 | 110 | 11 | 11 | 8.6 | 1.59 | 1.59 | 1.59 | |
| 6/20/96 | 5.9 | 5.9 | 5.9 | 23 | 2.3 | 2.3 | 11.7 | 0.36 | 0.36 | 0.36 | |
| 7/23/96 | 4 U | 0 | 4 | 11 | 1.1 | 1.1 | 15.8 | 0.07 | 0.19 | 0.30 | |
| Kimberly Clark, Everett - "Outfall 008" | | | | | | | | | | | |
| 9/5/91 | 3.3 U | 0 | 3.3 | 12 | 1.2 | 1.2 | 18.7 | 0.08 | 0.20 | 0.32 | |
| 12/9/91 | 7.3 U | 0 | 7.3 | 8.9 U | 0 | 0.89 | 19.8 | 0.00 | 0.31 | 0.61 | |
| 6/26/92 | 3.1 U | 0 | 3.1 | 4.6 | 0.46 | 0.46 | 16.4 | 0.03 | 0.12 | 0.22 | |
| 9/12/92 | 3.2 U | 0 | 3.2 | 4.6 U | 0 | 0.46 | 17.2 | 0.00 | 0.12 | 0.24 | |
| 12/19/92 | 2.4 U | 0 | 2.4 | 2.6 U | 0 | 0.26 | 13.9 | 0.00 | 0.07 | 0.14 | |
| 9/21/93 | 3.1 U | 0 | 3.1 | 2.3 U | 0 | 0.23 | 16.9 | 0.00 | 0.11 | 0.21 | |
| 1/17/94 | 2.9 U | 0 | 2.9 | 1.0 U | 0 | 0.1 | 16.5 | 0.00 | 0.09 | 0.19 | |
| 2/21/95 | 4.3 U | 0 | 4.3 | 1.9 U | 0 | 0.19 | 20.5 | 0.00 | 0.17 | 0.35 | |



Kimberly Clark - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | | 2,3,7,8-TCDF TEF = 0.1 | | | Flow (MGD) | TEQ Load (mg/day) <DL= 1/2 | | | |
|---|-------------------------|--------------------|-----------|---------------------------|--------------------|-----------|-------------------|-------------------------------------|------|------|--|
| | Value (ppq) | TEQ (ppq) <DL = | 0 DL | Value (ppq) | TEQ (ppq) <DL = | 0 DL | | 0 DL | DL | | |
| 5/21/96 | 2.8 U | 0 | 2.8 | 1.7 U | 0 | 0.17 | 16.4 | 0.00 | 0.09 | 0.18 | |
| 6/20/96 | 1.9 U | 0 | 1.9 | 1.7 U | 0 | 0.17 | 16.2 | 0.00 | 0.06 | 0.13 | |
| 7/23/96 | 2.5 U | 0 | 2.5 | 4.9 U | 0 | 0.49 | 16.7 | 0.00 | 0.09 | 0.19 | |
| Kimberly Clark - Sum of 3 outfalls | | | | | | | | | | | |
| 9/5/91 | | | | | | | | 0.15 | 0.41 | 0.68 | |
| 12/9/91 | | | | | | | | 0.00 | 0.63 | 1.26 | |
| 6/26/92 | | | | | | | | 0.11 | 0.31 | 0.50 | |
| 9/12/92 | | | | | | | | 0.00 | 0.20 | 0.39 | |
| 12/19/92 | | | | | | | | 0.03 | 0.20 | 0.36 | |
| 9/21/93 | | | | | | | | 0.00 | 0.21 | 0.41 | |
| 1/17/94 | | | | | | | | 0.03 | 0.22 | 0.42 | |
| 2/21/95 | | | | | | | | 0.04 | 0.31 | 0.58 | |
| 5/21/96 | | | | | | | | 3.34 | 3.44 | 3.53 | |
| 6/20/96 | | | | | | | | 0.65 | 0.71 | 0.78 | |
| 7/23/96 | | | | | | | | 0.09 | 0.36 | 0.63 | |
| Low | | | | | | | | 0.00 | 0.20 | 0.36 | |
| Average | | | | | | | | 0.40 | 0.63 | 0.87 | |
| High | | | | | | | | 3.34 | 3.44 | 3.53 | |
| Count | | | | | | | | 11 | | | |

Longview Fibre

Facility Longview Fibre Company, Pulp and Paper Mill

Lab Triangle Laboratories of RTP, Inc.

Sample Name EF-E (Process Wastewater Effluent)

Sample Number 458305

Date 11/2/93 to 11/3/93

| | | | | |
|-------|------|------|------|-----|
| Units | pg/L | pg/L | pg/L | TEQ |
|-------|------|------|------|-----|

| Congener | TEF | Value | Qualifier | TEQ (<DL=0) | <DL=1/2D L) | TEQ (<DL=DL) |
|---------------------|-------|-------|-----------|----------------|----------------|-----------------|
| 2,3,7,8-TCDD | 1 | 5 | U | 0 | | 5 |
| 1,2,3,7,8-PCDD | 0.5 | 5.5 | U | 0 | | 2.75 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 6.9 | U | 0 | | 0.69 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 6.2 | U | 0 | | 0.62 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 6.2 | U | 0 | | 0.62 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 9.2 | | 0.092 | | 0.092 |
| OCDD | 0.001 | 67 | UJ | 0 | | 0.067 |
| 2,3,7,8-TCDF | 0.1 | 6.3 | UJ | 0 | | 0.63 |
| 1,2,3,7,8-PCDF | 0.05 | 4.5 | U | 0 | | 0.225 |
| 2,3,4,7,8-PCDF | 0.5 | 3.8 | U | 0 | | 1.9 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 6.4 | U | 0 | | 0.64 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 3.8 | U | 0 | | 0.38 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 3.7 | U | 0 | | 0.37 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 5 | U | 0 | | 0.5 |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 4.3 | U | 0 | | 0.043 |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 6.5 | U | 0 | | 0.065 |
| OCDF | 0.001 | 9.2 | U | 0 | | 0.0092 |

| | | |
|----------------|-------|---------|
| EPA TEQ (pg/L) | 0.092 | 14.6012 |
|----------------|-------|---------|

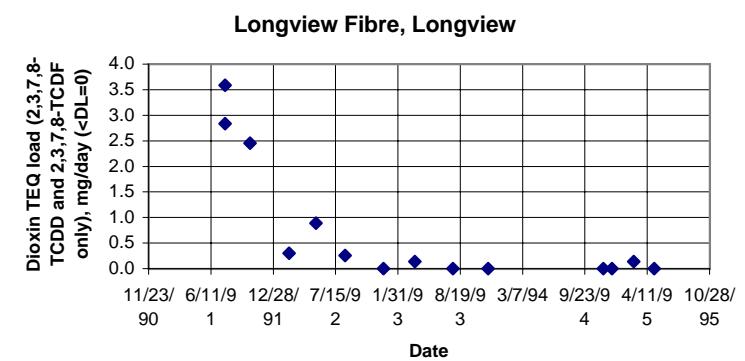
| | | |
|------------|------|------|
| Flow (MGD) | 60.7 | 60.7 |
|------------|------|------|

| | | |
|-----------------|-------|------|
| TEQ load (mg/D) | 0.021 | 1.69 |
|-----------------|-------|------|

| | | |
|-------|------|------|
| 0.021 | 1.69 | 3.35 |
|-------|------|------|

Longview Fibre - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | | 2,3,7,8-TCDF TEF = 0.1 | | | Flow (MGD) | TEQ Load (mg/day) <DL= | | | Comment |
|---|-------------------------|--------------------|------|---------------------------|--------------------|------|-------------------|------------------------------|------|-----------|---|
| | Value (ppq) | TEQ (ppq) <DL = | 0 DL | Value (ppq) | TEQ (ppq) <DL = | 0 DL | | 0 | DL | 1/2 DL | |
| Longview Fibre, Longview - "Final Mill Effluent" | | | | | | | | | | | |
| 7/26/91 | 8.5 | 8.5 | 8.5 | 40 | 4 | 4 | 60 | 2.84 | 2.84 | 2.84 | Estimated flow based on average flow for AOX data |
| 7/26/91 | 12 | 12 | 12 | 38 | 3.8 | 3.8 | 60 | 3.59 | 3.59 | 3.59 | Estimated flow based on average flow for AOX data |
| 10/14/91 | 8.2 | 8.2 | 8.2 | 22 | 2.2 | 2.2 | 62.4 | 2.46 | 2.46 | 2.46 | |
| 2/17/92 | 10 U | 0 | 10 | 13 | 1.3 | 1.3 | 61.2 | 0.30 | 1.46 | 2.62 | |
| 5/13/92 | 4.6 U | 0 | 4.6 | 39 | 3.9 | 3.9 | 60.4 | 0.89 | 1.42 | 1.94 | |
| 8/14/92 | 3 U | 0 | 3 | 8.8 | 0.88 | 0.88 | 77.2 | 0.26 | 0.70 | 1.13 | |
| 12/16/92 | 3.2 U | 0 | 3.2 | 5 U | 0 | 0.5 | 57.6 | 0.00 | 0.40 | 0.81 | |
| 3/26/93 | 2.3 U | 0 | 2.3 | 5.6 | 0.56 | 0.56 | 66.4 | 0.14 | 0.43 | 0.72 | |
| 7/27/93 | 1.5 U | 0 | 1.5 | 1.6 U | 0 | 0.16 | 62.5 | 0.00 | 0.20 | 0.39 | |
| 11/16/93 | 3.2 U | 0 | 3.2 | 2.4 U | 0 | 0.24 | 64.5 | 0.00 | 0.42 | 0.84 | |
| 12/19/94 | 4.5 U | 0 | 4.5 | 5.6 U | 0 | 0.56 | 54.5 | 0.00 | 0.52 | 1.04 | |
| 11/21/94 | 1.7 U | 0 | 1.7 | 2.8 U | 0 | 0.28 | 58.6 | 0.00 | 0.22 | 0.44 | |
| 2/27/95 | 2.9 U | 0 | 2.9 | 6.5 | 0.65 | 0.65 | 55.2 | 0.14 | 0.44 | 0.74 | |
| 5/3/95 | 1.8 U | 0 | 1.8 | 1.9 U | 0 | 0.19 | 55.5 | 0.00 | 0.21 | 0.42 | |
| 8/16/95 | 4.5 U | 0 | 4.5 | 3.6 U | 0 | 0.36 | | | | | |
| 11/9/95 | 2.0 U | 0 | 2 | 1.9 U | 0 | 0.19 | | | | | |
| 5/30/96 | 2.5 U | 0 | 2.5 | 2.7 U | 0 | 0.27 | | | | | |
| 9/11/96 | 2.3 U | 0 | 2.3 | 1.9 U | 0 | 0.19 | | | | | |
| 11/12/96 | 1.7 U | 0 | 1.7 | 1.4 U | 0 | 0.14 | | | | | |
| 1/22/97 | 2.3 U | 0 | 2.3 | 2.2 U | 0 | 0.22 | | | | | |
| | | | | | | | | 0.00 | 0.2 | 0.4 | |
| | | | | | | | | 0.76 | 1.1 | 1.4 | |
| | | | | | | | | 3.59 | 3.6 | 3.6 | |
| | | | | | | | | 14 | | | |



Northwest Hospital

Facility
Lab
Sample Name
Date

Northwest Hospital Medical Waste Incinerator
Huntington Engineering and Environmental, Inc.

| Units | Congener | TEF | Run 1 1/18/95 | | | | Run 2 1/19/95 | | | | Run 3 1/20/95 | | | | |
|---------------------|----------|-------|------------------|----------|----------------------------|------------------------|------------------|----------|----------------------------|------------------------|------------------|----------|----------------------------|------------------------|-----------|
| | | | ng/dscm | Q | mg TEQ/ dscm (<DL=0) | mg TEQ/min (<DL=DL) | ng/dscm | Q | mg TEQ/ dscm (<DL=0) | mg TEQ/min (<DL=DL) | ng/dscm | Q | mg TEQ/ dscm (<DL=0) | mg TEQ/min (<DL=DL) | |
| 2,3,7,8-TCDD | 1 | 0.004 | 0.004 | 5.12E-07 | 5.12E-07 | 0.008 | U | 0.008 | 0 | 1.07E-06 | 0.004 | U | 0.004 | 0 | 3.82E-07 |
| 1,2,3,7,8-PCDD | 0.5 | 0.086 | 0.043 | 5.50E-06 | 5.50E-06 | 0.064 | 0.032 | 4.28E-06 | 4.28E-06 | 0.009 | U | 0.0045 | 0 | 4.30E-07 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.202 | 0.0202 | 2.58E-06 | 2.58E-06 | 0.099 | 0.0099 | 1.33E-06 | 1.33E-06 | 0.051 | 0.0051 | 4.87E-07 | 4.87E-07 | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.887 | 0.0887 | 1.13E-05 | 1.13E-05 | 0.347 | 0.0347 | 4.64E-06 | 4.64E-06 | 0.181 | 0.0181 | 1.73E-06 | 1.73E-06 | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.405 | 0.0405 | 5.18E-06 | 5.18E-06 | 0.173 | 0.0173 | 2.32E-06 | 2.32E-06 | 0.092 | 0.0092 | 8.78E-07 | 8.78E-07 | | |
| 1,2,3,4,6,7,8-HxCDF | 0.01 | 12.5 | 0.125 | 1.60E-05 | 1.60E-05 | 5.2 | 0.052 | 6.96E-06 | 6.96E-06 | 2.56 | 0.0256 | 2.44E-06 | 2.44E-06 | | |
| OCDD | 0.001 | 24.9 | 0.0249 | 3.18E-06 | 3.18E-06 | 13.1 | 0.0131 | 1.75E-06 | 1.75E-06 | 6.49 | 0.0065 | 6.20E-07 | 6.20E-07 | | |
| 2,3,7,8-TCDF | 0.1 | 0.103 | 0.0103 | 1.32E-06 | 1.32E-06 | 0.059 | 0.0059 | 7.90E-07 | 7.90E-07 | 0.025 | 0.0025 | 2.39E-07 | 2.39E-07 | | |
| 1,2,3,7,8-PCDF | 0.05 | 0.311 | 0.0156 | 1.99E-06 | 1.99E-06 | 0.168 | 0.0084 | 1.12E-06 | 1.12E-06 | 0.061 | 0.0031 | 2.91E-07 | 2.91E-07 | | |
| 2,3,4,7,8-PCDF | 0.5 | 0.809 | 0.4045 | 5.17E-05 | 5.17E-05 | 0.421 | 0.2105 | 2.82E-05 | 2.82E-05 | 0.154 | 0.077 | 7.35E-06 | 7.35E-06 | | |
| 1,2,3,4,7,8-HxCDF | 0.1 | 1.06 | 0.106 | 1.36E-05 | 1.36E-05 | 0.495 | 0.0495 | 6.63E-06 | 6.63E-06 | 0.191 | 0.0191 | 1.82E-06 | 1.82E-06 | | |
| 1,2,3,6,7,8-HxCDF | 0.1 | 0.981 | 0.0981 | 1.25E-05 | 1.25E-05 | 0.471 | 0.0471 | 6.30E-06 | 6.30E-06 | 0.164 | 0.0164 | 1.57E-06 | 1.57E-06 | | |
| 2,3,4,6,7,8-HxCDF | 0.1 | 2.49 | 0.249 | 3.18E-05 | 3.18E-05 | 1.16 | 0.116 | 1.55E-05 | 1.55E-05 | 0.478 | 0.0478 | 4.56E-06 | 4.56E-06 | | |
| 1,2,3,7,8,9-HxCDF | 0.1 | 0.996 | 0.0996 | 1.27E-05 | 1.27E-05 | 0.471 | 0.0471 | 6.30E-06 | 6.30E-06 | 0.167 | 0.0167 | 1.59E-06 | 1.59E-06 | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 7.94 | 0.0794 | 1.02E-05 | 1.02E-05 | 3.47 | 0.0347 | 4.64E-06 | 4.64E-06 | 1.43 | 0.0143 | 1.37E-06 | 1.37E-06 | | |
| 1,2,3,4,7,8,9-HpC | 0.01 | 2.96 | 0.0296 | 3.79E-06 | 3.79E-06 | 1.24 | 0.0124 | 1.66E-06 | 1.66E-06 | 0.58 | 0.0058 | 5.54E-07 | 5.54E-07 | | |
| OCDF | 0.001 | 14.8 | 0.0148 | 1.89E-06 | 1.89E-06 | 6.69 | 0.0067 | 8.95E-07 | 8.95E-07 | 3.76 | 0.0038 | 3.59E-07 | 3.59E-07 | | |
| EPA TEQ | | | | 1.453 | 0.000186 | 0.000186 | | 0.7053 | 0.0000933 | 0.0000944 | | | 0.2794 | 0.0000259 | 0.0000267 |
| TEQ Load (mg/d) | | | | | 0.268 | 0.268 | | | 0.134 | 0.136 | | | 0.037 | 0.038 | |

| | |
|-----------------------------|-------|
| Average of 3 runs (mg/day): | |
| <DL=0 | 0.146 |
| <DL=1/2DL | 0.147 |
| <DL=DL | 0.147 |

Olivine - Air Emissions (page 32 of 33)

| Facility | Olivine Corporation, Municipal Solid Waste Incinerator | | | | | | | | | | | | | | | | | | |
|-----------------------------|--|-------------------|---|---------------------|---|---|----------------------|-------------------|-------|---------------------|---|-------|----------------------|-------------------|-------|---------------------|---|-------|-------|
| Sample Name | Air Emissions, March 17-18, 1995 | | | | | | | | | | | | | | | | | | |
| Lab | Quanterra Incorporated, West Sacramento, CA | | | | | | | | | | | | | | | | | | |
| Sample ID Lab ID Date | Run 1 080696-0001-SA 3/17-18/1995 | | | | | Run 2 080696-0002-SA 3/17-18/1995 | | | | | Run 3 080696-0003-SA 3/17-18/1995 | | | | | | | | |
| | Value (ng/sample) | Value (mg/day) | Q | TEQ (ng/kg) <DL= | 0 | DL | Value (ng/sample) | Value (mg/day) | Q | TEQ (ng/kg) <DL= | 0 | DL | Value (ng/sample) | Value (mg/day) | Q | TEQ (ng/kg) <DL= | 0 | DL | |
| | | | | | | | | | | | | | | | | | | | |
| Congener | TEF | | | | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.086 | J | 0.022 | J | 0.022 | 0.022 | 0.062 | J | 0.016 | J | 0.016 | 0.016 | 0.033 | U | 0.0086 | U | 0 | 0.009 |
| 1,2,3,7,8-PCDD | 0.5 | 0.49 | | 0.1 | | 0.063 | 0.063 | 0.33 | J | 0.084 | J | 0.042 | 0.042 | 0.18 | U | 0.0467 | U | 0 | 0.023 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.73 | | 0.2 | | 0.019 | 0.019 | 0.52 | | 0.133 | | 0.013 | 0.013 | 0.31 | J | 0.0804 | J | 0.008 | 0.008 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 1.9 | | 0.5 | | 0.049 | 0.049 | 1.4 | | 0.358 | | 0.036 | 0.036 | 0.79 | | 0.2050 | | 0.020 | 0.020 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 2.5 | | 0.6 | | 0.065 | 0.065 | 1.8 | | 0.460 | | 0.046 | 0.046 | 1 | | 0.2595 | | 0.026 | 0.026 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 16 | | 4.1 | | 0.041 | 0.041 | 10 | | 2.554 | | 0.026 | 0.026 | 6.3 | | 1.6348 | | 0.016 | 0.016 |
| OCDD | 0.001 | 33 | | 8.5 | | 0.009 | 0.009 | 19 | | 4.853 | | 0.005 | 0.005 | 12 | | 3.1139 | | 0.003 | 0.003 |
| 2,3,7,8-TCDF | 0.1 | 0.44 | | 0.1 | | 0.011 | 0.011 | 0.32 | | 0.082 | | 0.008 | 0.008 | 0.17 | | 0.0441 | | 0.004 | 0.004 |
| 1,2,3,7,8-PCDF | 0.05 | 1 | U | 0.3 | U | 0 | 0.013 | 0.75 | U | 0.192 | U | 0 | 0.010 | 0.37 | U | 0.0960 | U | 0 | 0.005 |
| 2,3,4,7,8-PCDF | 0.5 | 1.6 | | 0.4 | | 0.206 | 0.206 | 1.2 | | 0.307 | | 0.153 | 0.153 | 0.65 | | 0.1687 | | 0.084 | 0.084 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 4.2 | U | 1.1 | U | 0 | 0.108 | 2.8 | | 0.715 | | 0.072 | 0.072 | 1.6 | | 0.4152 | | 0.042 | 0.042 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 2.2 | U | 0.6 | U | 0 | 0.057 | 1.5 | | 0.383 | | 0.038 | 0.038 | 0.83 | | 0.2154 | | 0.022 | 0.022 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 2.8 | U | 0.7 | U | 0 | 0.072 | 1.9 | U | 0.485 | U | 0 | 0.049 | 1.1 | U | 0.2854 | U | 0 | 0.029 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.25 | U | 0.1 | U | 0 | 0.006 | 0.18 | U | 0.046 | U | 0 | 0.005 | 0.13 | U | 0.0337 | U | 0 | 0.003 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 10 | | 2.6 | | 0.026 | 0.026 | 6 | | 1.533 | | 0.015 | 0.015 | 3.9 | | 1.0120 | | 0.010 | 0.010 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 1.3 | | 0.3 | | 0.003 | 0.003 | 0.69 | | 0.176 | | 0.002 | 0.002 | 0.53 | | 0.1375 | | 0.001 | 0.001 |
| OCDF | 0.001 | 4.1 | U | 1.1 | U | 0 | 0.001 | 1.8 | U | 0.460 | U | 0 | 0.000 | 1.6 | U | 0.4152 | U | 0 | 0.000 |
| EPA TEQ Load (mg/day) | | | | | | | 0.5146 | | 0.772 | | | | 0.472 | | 0.535 | | | 0.237 | 0.306 |

Ave. of 3 runs (mg TEQ/day)

| |
|-------------|
| 0.41 |
| 0.47 |
| 0.54 |

Test Conditions

| | | | |
|---|---------|---------|---------|
| sample volume (dscf) | 112.889 | 107.937 | 104.427 |
| Ave. stack volumetric flowrate (dscf/min) | 20,232 | 19,147 | 18,818 |

Olivine - Air Emissions (page 33 of 33)

Facility
Sample Name
Lab
Sample ID
Lab ID
Date

Olivine Corporation, Municipal Solid Waste Incinerator

| Congener | TEF | Air Emissions, October 27-28/1994 | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|-------|-----------------------------------|---|-------------------|---|----------------------|---|-------------------|---|----------------------|---|-------------------|---|--------|--|-------|--|-------|--|--------|--|-------|--|-------|
| | | Run 1 | | | | Run 2 | | | | Run 3 | | | | | | | | | | | | | | |
| | | 14117-001-SA | | 14117-002-SA | | 14117-003-SA | | 10/27-28/1994 | | 10/27-28/1994 | | 10/27-28/1994 | | | | | | | | | | | | |
| | | Value (ng/sample) | Q | Value (mg/day) | Q | Value (ng/sample) | Q | Value (mg/day) | Q | Value (ng/sample) | Q | Value (mg/day) | Q | | | | | | | | | | | |
| | | TEQ (ng/kg) | | <DL= | | TEQ (ng/kg) | | <DL= | | TEQ (ng/kg) | | <DL= | | | | | | | | | | | | |
| | | 0 | | DL | | 0 | | DL | | 0 | | DL | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.82 | | 0.202 | | 0.202 | | 0.202 | | 0.41 * | | 0.102 | | 0.102 | | 0.64 | | 0.143 | | 0.14 | | 0.143 | | |
| 1,2,3,7,8-PCDD | 0.5 | 7 | | 1.721 | | 0.861 | | 0.861 | | 1.9 | | 0.470 | | 0.235 | | 0.235 | | 3.8 | | 0.848 | | 0.4 | | 0.424 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 13 | | 3.197 | | 0.320 | | 0.320 | | 3.5 | | 0.867 | | 0.087 | | 0.087 | | 7.4 | | 1.651 | | 0.165 | | 0.165 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 40 | | 9.837 | | 0.984 | | 0.984 | | 8.9 | | 2.204 | | 0.220 | | 0.220 | | 18 | | 4.015 | | 0.401 | | 0.401 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 19 | | 4.672 | | 0.467 | | 0.467 | | 4.8 | | 1.189 | | 0.119 | | 0.119 | | 10 | | 2.230 | | 0.223 | | 0.223 |
| 1,2,3,4,6,7,8-HxCDD | 0.01 | 230 | | 56.561 | | 0.566 | | 0.566 | | 57 | | 14.115 | | 0.141 | | 0.141 | | 120 | | 26.765 | | 0.268 | | 0.268 |
| OCDD | 0.001 | 290 | | 71.316 | | 0.071 | | 0.071 | | 79 | | 19.563 | | 0.020 | | 0.020 | | 210 | | 46.839 | | 0.047 | | 0.047 |
| 2,3,7,8-TCDF | 0.1 | 6.7 | | 1.648 | | 0.165 | | 0.165 | | 2 | | 0.495 | | 0.050 | | 0.050 | | 4.9 | | 1.093 | | 0.109 | | 0.109 |
| 1,2,3,7,8-PCDF | 0.05 | 16 | | 3.935 | | 0.197 | | 0.197 | | 4.9 * | | 1.213 | | 0.061 | | 0.061 | | 11 | | 2.453 | | 0.12 | | 0.123 |
| 2,3,4,7,8-PCDF | 0.5 | 34 | | 8.361 | | 4.181 | | 4.181 | | 10 * | | 2.476 | | 1.238 | | 1.238 | | 21 | | 4.684 | | 2.342 | | 2.342 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 41 | | 10.083 | | 1.008 | | 1.008 | | 13 | | 3.219 | | 0.322 | | 0.322 | | 28 | | 6.245 | | 0.625 | | 0.625 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 33 | | 8.115 | | 0.812 | | 0.812 | | 10 | | 2.476 | | 0.248 | | 0.248 | | 22 | | 4.907 | | 0.491 | | 0.491 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 51 | | 12.542 | | 1.254 | | 1.254 | | 14 | | 3.467 | | 0.35 | | 0.347 | | 30 | | 6.691 | | 0.67 | | 0.669 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 13 | | 3.197 | | 0.320 | | 0.320 | | 3.5 | | 0.867 | | 0.09 | | 0.087 | | 8 | | 1.784 | | 0.18 | | 0.178 |
| 1,2,3,4,6,7,8-HxCDD | 0.01 | 140 | | 34.428 | | 0.344 | | 0.344 | | 44 | | 10.896 | | 0.109 | | 0.109 | | 100 | | 22.304 | | 0.223 | | 0.223 |
| 1,2,3,4,7,8,9-HxCDD | 0.01 | 15 | | 3.689 | | 0.037 | | 0.037 | | 3.9 | | 0.966 | | 0.010 | | 0.010 | | 8.9 | | 1.985 | | 0.020 | | 0.020 |
| OCDF | 0.001 | 28 | | 6.886 | | 0 | | 0.007 | | 8.6 | | 2.130 | | 0.0021 | | 0.002 | | 21 | | 4.684 | | 0.005 | | 0.005 |
| EPA TEQ Load (mg/day) | | | | | | 11.79 | | 11.79 | | | | | | 3.395 | | 3.395 | | | | 6.455 | | 6.455 | | |

Ave. of 3 runs (mg TEQ/day)

| | |
|------------|------|
| <DL=0: | 7.21 |
| <DL=1/2DL: | 7.21 |
| <DL=DL: | 7.21 |

Test Conditions

| | | | |
|---|---------|---------|---------|
| sample volume (dscf) | 109.184 | 112.023 | 115.984 |
| Ave. stack volumetric flowrate (dscf/min) | 18,646 | 19,264 | 17,965 |

* "Run #2 was diluted 1:10 and re-analyzed due to matrix interferences. Results taken from the diluted extract are indicated with the ** qualifier."

Rayonier - Air

| Facility | Rayonier | | | |
|--|-------------------------|------------------|---|-----------------------------|
| Sample Name | Hog Fuel Boiler Average | | | |
| Lab | | | | |
| Date | | | | |
| Congener | TEF | Value (ng/m3) | Q | 1995 TEQ (ng/m3) <DL= |
| | | | | 0 DL |
| 2,3,7,8-TCDD | 1 | 0.006 | U | 0.000 0.006 |
| 1,2,3,7,8-PCDD | 0.5 | 0.026 | | 0.013 0.013 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.019 | | 0.002 0.002 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.036 | | 0.004 0.004 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.024 | | 0.002 0.002 |
| 1,2,3,4,6,7,8-HpCD | 0.01 | 0.134 | | 0.001 0.001 |
| OCDD | 0.001 | 0.156 | | 0.000 0.000 |
| 2,3,7,8-TCDF | 0.1 | 0.177 | | 0.018 0.018 |
| 1,2,3,7,8-PCDF | 0.05 | 0.038 | | 0.002 0.002 |
| 2,3,4,7,8-PCDF | 0.5 | 0.040 | | 0.020 0.020 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 0.018 | U | 0.000 0.002 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 0.018 | U | 0.000 0.002 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 0.018 | U | 0.000 0.002 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 0.018 | U | 0.000 0.002 |
| 1,2,3,4,6,7,8-HpCD | 0.01 | 0.026 | | 0.0003 0.000 |
| 1,2,3,4,7,8,9-HpCD | 0.01 | 0.018 | U | 0.000 0.000 |
| OCDF | 0.001 | 0.036 | U | 0.000 0.000 |
| EPA TEQ (ng/m3) | | | | 0.062 0.076 |
| Ave. stack volumetric flowrate (dscf/min.) | | 22,097 | | 22,097 |
| TEQ Production Rate (mg/d) | | 0.056 | | 0.068 |
| Multiplying by 3, as per note below (mg TEQ/day) | | | | |
| <DL=0: | | 0.168 | | |
| <DL=1/2DL: | | 0.186 | | |
| <DL=DL: | | 0.205 | | |

In the Amtest report: "Note: These emission tests were conducted at 1 of 3 scrubber stacks. The airflows and PCDD/PCDF emission rates (ng/min) should be multiplied by 3 to represent total emissions."

Source: Foster Wheeler Environmental Corporation, 1997, Table 2-3, page 2-32.

Rayonier - Ash

| Facility Sample Name Lab Sample ID Date | Rayonier | | | | | | | | | | | | | | |
|---|----------|---------|---|------|--------------------|---|-----|--------------------|---|-------|--------------------|---|------|--------------------|--|
| | Ash | | | | | | | | | | | | | | |
| | Congener | TEF | Filter Ash (p. 2-72) ¹ 9/13/1993 (on p. 2-72 as "2/93") | | | Ash, Vacuum Filter, & Grate February, 1997 | | | Filter Ash (p. 2-70) ¹ December, 1989 | | | Fly Ash (p.2-69) ¹ December, 1989 | | | |
| | | | Value (pg/g) | Q | TEQ (pg/g) <DL= | Value (pg/g) | Q | TEQ (pg/g) <DL= | Value (pg/g) | Q | TEQ (pg/g) <DL= | Value (pg/g) | Q | TEQ (pg/g) <DL= | |
| | | | | | 0 | | | DL | | | 0 | | | DL | |
| 2,3,7,8-TCDD | 1 | 850 | 850 | 850 | 88 | 88 | 88 | | 460 | 460 | 460 | 40 | 40 | 40 | |
| 1,2,3,7,8-PCDD | 0.5 | 6,400 | 3200 | 3200 | 460 | 230 | 230 | | 1,400 | 700 | 700 | 120 | 60 | 60 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 16,000 | 1600 | 1600 | 820 | 82 | 82 | | 1,000 | 100 | 100 | 260 | 26 | 26 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 21,000 | 2100 | 2100 | 2,200 | 220 | 220 | | 640 | 64 | 64 | 180 | 18 | 18 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 16,000 | 1600 | 1600 | 1,900 | 190 | 190 | | 150 | 15 | 15 | 160 | 16 | 16 | |
| 1,2,3,4,6,7,8-HpCl | 0.01 | 130,000 | 1300 | 1300 | 10,000 | 100 | 100 | | 1,900 | 19 | 19 | 810 | 8 | 8 | |
| OCDD | 0.001 | 88,000 | 88 | 88 | 11,000 | 11 | 11 | | 1,800 | 2 | 2 | 470 | 0 | 0 | |
| 2,3,7,8-TCDF | 0.1 | 1,400 | 140 | 140 | 210 | 21 | 21 | | 1,500 | 150 | 150 | 130 | 13 | 13 | |
| 1,2,3,7,8-PCDF | 0.05 | 1,900 | 95 | 95 | 200 | U | - | | 870 | 44 | 44 | 43 | 2 | 2 | |
| 2,3,4,7,8-PCDF | 0.5 | 2,600 | 1300 | 1300 | 310 | 155 | 155 | | 1,200 | 600 | 600 | 56 | 28 | 28 | |
| 1,2,3,4,7,8-HxCDF | 0.1 | 1,500 | 150 | 150 | 200 | 20 | 20 | | 670 | 67 | 67 | 41 | 4 | 4 | |
| 1,2,3,6,7,8-HxCDF | 0.1 | ND | 0 | ? | 180 | 18 | 18 | | 510 | 51 | 51 | 38 | 4 | 4 | |
| 2,3,4,6,7,8-HxCDF | 0.1 | 1,300 | 130 | 130 | 120 | 12 | 12 | | 31 | 3 | 3 | 31 | 3 | 3 | |
| 1,2,3,7,8,9-HxCDF | 0.1 | 680 | 68 | 68 | 37 | U | - | | 210 | 21 | 21 | 14 | 1 | 1 | |
| 1,2,3,4,6,7,8-HpCl | 0.01 | 1,500 | 15 | 15 | 210 | 2 | 2 | | 310 | 3 | 3 | 57 | 1 | 1 | |
| 1,2,3,4,7,8,9-HpCl | 0.01 | 430 | 4 | 4 | 81 | 1 | 1 | | 55 | 1 | 1 | 11 | 0 | 0 | |
| OCDF | 0.001 | 370 | 0 | 0 | 120 | 0 | 0 | | 240 | 0 | 0 | 20 | 0 | 0 | |
| EPA TEQ (ppt) | | | 12,641 | | | 1,150 | | 1,164 | | 2,299 | | 2,299 | 225 | 225 | |
| TEQ Production Rate @ 3 tons/day (mg/d) | | | 34.5 | | | 3.14 | | 3.17 | | 6.27 | | 6.27 | 0.61 | 0.61 | |
| TEQ Production Rate @ 6 tons/day (mg/d) | | | 68.9 | | | 6.27 | | 6.35 | | 12.5 | | 12.5 | 1.23 | 1.23 | |
| TEQ Production Rate @ 15 tons/day (mg/d) | | | 172.4 | | | 15.7 | | 15.9 | | 31.4 | | 31.4 | 3.07 | 3.07 | |

¹Source: Foster Wheeler Environmental Corporation, 1997.

ND = Not Detected (detection limit not given)

Rayonier - Water (page 3 of 27)

| Facility Lab (unknown) Date Sample Description | Rayonier | | | | | | | | | | | | | |
|---|----------|------|----------------------------|----|----------------------|----------------------------|----|----------------------|----------------------------|------|----------------------|----------------------------|----|----------------------|
| | Congener | TEF | Dec-89 #3 Mill Effluent | | | Feb-90 Extended Outfall | | | Jun-90 Extended Outfall | | | Dec-91 Extended Outfall | | |
| | | | Value (ppq) | Q | TEQ (ppq) <DL= | Value (ppq) | Q | TEQ (ppq) <DL= | Value (ppq) | Q | TEQ (ppq) <DL= | Value (ppq) | Q | TEQ (ppq) <DL= |
| | | | | | 0 | | | 0 | | | 0 | | DL | |
| 2,3,7,8-TCDD | 1 | 27 | 27 | 27 | 18 | 18 | 18 | U | 0 | 69 | 69 | 69 | | |
| 1,2,3,7,8-PCDD | 0.5 | 55 | 28 | 28 | 69 | 35 | 35 | U | 0 | 320 | 160 | 160 | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 37 | 4 | 4 | 46 | 5 | 5 | U | 0 | 210 | 21 | 21 | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | U | 0 | | 32 | 3 | 3 | U | 0 | 250 | 25 | 25 | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | U | 0 | | 360 | 36 | 36 | U | 0 | 240 | 24 | 24 | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 250 | 3 | 3 | 210 | 2 | 2 | 50 | 1 | 44 | 0 | 0 | | |
| OCDD | 0.001 | 2100 | 2 | 2 | 530 | 1 | 1 | 270 | 0 | 1400 | 1 | 1 | | |
| 2,3,7,8-TCDF | 0.1 | 46 | 5 | 5 | 33 | 3 | 3 | 4 | 0 | 64 | 6 | 6 | | |
| 1,2,3,7,8-PCDF | 0.05 | 58 | 3 | 3 | 40 | 2 | 2 | U | 0 | 64 | 3 | 3 | | |
| 2,3,4,7,8-PCDF | 0.5 | 46 | 23 | 23 | U | 0 | | U | 0 | 97 | 49 | 49 | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | U | 0 | | 32 | 3 | 3 | U | 0 | 33 | 3 | 3 | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | U | 0 | | 20 | 2 | 2 | U | 0 | 32 | 3 | 3 | | |
| 2,3,4,6,7,8-HxCDD | 0.1 | U | 0 | | U | 0 | | U | 0 | 39 | 4 | 4 | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | U | 0 | | U | 0 | | U | 0 | U | 0 | | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | U | 0 | | U | 0 | | U | 0 | 44 | 0 | 0 | | |
| 1,2,3,4,7,8,9-HpC | 0.01 | U | 0 | | U | 0 | | U | 0 | U | 0 | | | |
| OCDF | 0.001 | U | 0 | | U | 0 | | U | 0 | U | 0 | | | |
| EPA TEQ (ppq) | | | 93 | | | 109 | | | 1 | | 370 | | | |
| Flow rate (MGD) | | | ### | | ### | ### | | ### | ### | ### | ### | | | |
| TEQ Production Rate (mg/d) | | | ### | | ### | ### | | ### | ### | ### | ### | | | |

Source: Foster Wheeler Environmental Corporation, 1997, Table 2-6, page 2

Rayonier - Water (page 4 of 27)

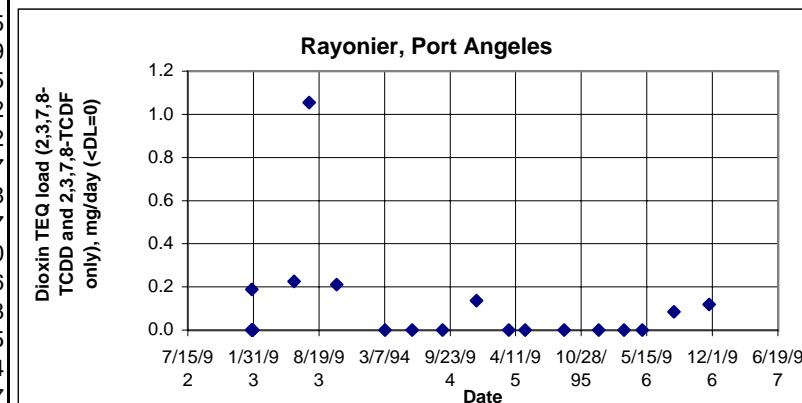
Facility
Lab (unknown)

Date
Sample Description

| Congener | TEF | Apr-92 Final Effluent | | | | Jun-92 Final Effluent | | | | Sep-92 Final Effluent | | | | Dec-92 Final Effluent | | | | Feb-94 Extended Outfall | | | |
|----------------------------|-------|-----------------------|----|----------------|----|-----------------------|----|----------------|----|-----------------------|----|----------------|----|-----------------------|----|----------------|----|-------------------------|---|----------------|----|
| | | Value (ppq) Q | | TEQ (ppq) <DL= | | Value (ppq) Q | | TEQ (ppq) <DL= | | Value (ppq) Q | | TEQ (ppq) <DL= | | Value (ppq) Q | | TEQ (ppq) <DL= | | Value (ppq) Q | | TEQ (ppq) <DL= | |
| | | | | 0 | DL | | | 0 | DL |
| 2,3,7,8-TCDD | 1 | 38 | 38 | 38 | | 32 | 32 | 32 | | 16 | 16 | 16 | | 13 | 13 | 13 | | U | 0 | | |
| 1,2,3,7,8-PCDD | 0.5 | 140 | 70 | 70 | | 96 | 48 | 48 | | 55 | 28 | 28 | | U | 0 | | | U | 0 | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 85 | 9 | 9 | | 62 | 6 | 6 | | U | 0 | | | U | 0 | | | U | 0 | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 130 | 13 | 13 | | 84 | 8 | 8 | | 82 | 8 | 8 | | 64 | 6 | 6 | | U | 0 | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 92 | 9 | 9 | | 120 | 12 | 12 | | 52 | 5 | 5 | | U | 0 | | | U | 0 | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 450 | 5 | 5 | | 260 | 3 | 3 | | 260 | 3 | 3 | | 190 | 2 | 2 | | U | 0 | | |
| OCDD | 0.001 | 720 | 1 | 1 | | 410 | 0 | 0 | | 540 | 1 | 1 | | 430 | 0 | 0 | | U | 0 | | |
| 2,3,7,8-TCDF | 0.1 | 52 | 5 | 5 | | 47 | 5 | 5 | | 22 | 2 | 2 | | 28 | 3 | 3 | | U | 0 | | |
| 1,2,3,7,8-PCDF | 0.05 | U | 0 | | | 33 | 2 | 2 | | U | 0 | | | U | 0 | | | U | 0 | | |
| 2,3,4,7,8-PCDF | 0.5 | 63 | 32 | 32 | | 40 | 20 | 20 | | U | 0 | | | U | 0 | | | U | 0 | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | |
| 2,3,4,6,7,8-HxCDD | 0.1 | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | |
| 1,2,3,4,7,8,9-HpC | 0.01 | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | |
| OCDF | 0.001 | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | | U | 0 | | |
| EPA TEQ (ppq) | | 181 | | | | 136 | | | | 62 | | | | 25 | | | | 0 | | | |
| Flow rate (MGD) | | ### | | | | ### | | | | ### | | | | ### | | | | ### | | | |
| TEQ Production Rate (mg/d) | | ### | | | | ### | | | | ### | | | | ### | | | | ### | | | |

Rayonier - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | 2,3,7,8-TCDF TEF = 0.1 | | Flow (MGD) | TEQ Load (mg/day) <DL= 1/2 | | | Comment |
|--|-------------------------|----------------------------|---------------------------|----------------------------|-------------------|-------------------------------------|------|------|---------|
| | Value (ppq) | TEQ (ppq) <DL = 0 DL | Value (ppq) | TEQ (ppq) <DL = 0 DL | | 0 | DL | DL | |
| Rayoneir, Port Angeles - "Final effluent" | | | | | | | | | |
| 1/25/93 | 4.4 U | 0 4.4 | 4.0 U | 0 0.4 | 37.9 | 0.00 | 0.34 | 0.69 | |
| 1/26/93 | 10.0 U | 0 10 | 13 | 1.3 1.3 | 38.2 | 0.19 | 0.91 | 1.63 | |
| 1/27/93 | 7.9 U | 0 7.9 | 9.6 U | 0 0.96 | 38.6 | 0.00 | 0.65 | 1.29 | |
| 1/28/93 | 4.4 U | 0 4.4 | 6.2 U | 0 0.62 | 37.4 | 0.00 | 0.36 | 0.71 | |
| 1/29/93 | 6.6 U | 0 6.6 | 8.3 U | 0 0.83 | 37.5 | 0.00 | 0.53 | 1.05 | |
| 6/4/93 | 9.7 U | 0 9.7 | 15 | 1.5 1.5 | 39.8 | 0.23 | 0.96 | 1.69 | |
| 7/20/93 | 5.4 | 5.4 5.4 | 9.3 | 0.93 0.93 | 44.0 | 1.05 | 1.05 | 1.05 | |
| 10/12/93 | 5.0 U | 0 5 | 13 | 1.3 1.3 | 42.8 | 0.21 | 0.62 | 1.02 | |
| 3/8/94 | 7.2 U | 0 7.2 | 7.0 U | 0 0.7 | 37.3 | 0.00 | 0.56 | 1.12 | |
| 5/30/94 | 3.8 U | 0 3.8 | 6.6 U | 0 0.66 | 39.9 | 0.00 | 0.34 | 0.67 | |
| 8/31/94 | 2.1 U | 0 2.1 | 2.8 U | 0 0.28 | 41.7 | 0.00 | 0.19 | 0.38 | |
| 12/12/94 | 3.5 U | 0 3.5 | 9 | 0.9 0.9 | 40.0 | 0.14 | 0.40 | 0.67 | |
| 3/21/95 | 0.5 U | 0 0.5 | 1.9 U | 0 0.19 | 38.5 | 0.00 | 0.05 | 0.10 | |
| 5/10/95 | 4.3 U | 0 4.3 | 2.4 U | 0 0.24 | 38.4 | 0.00 | 0.33 | 0.66 | |
| 9/6/95 | 4.3 U | 0 4.3 | 2.7 U | 0 0.27 | 33.6 | 0.00 | 0.29 | 0.58 | |
| 12/20/95 | 1.5 U | 0 1.5 | 2.6 U | 0 0.26 | 37.4 | 0.00 | 0.12 | 0.25 | |
| 3/6/96 | 2.2 U | 0 2.2 | 3.7 U | 0 0.37 | 35.0 | 0.00 | 0.17 | 0.34 | |
| 5/1/96 | 2.0 U | 0 2 | 6.5 U | 0 0.65 | 36.4 | 0.00 | 0.18 | 0.37 | |
| 8/6/96 | 0.98 U | 0 0.98 | 5.2 | 0.52 0.52 | 43.3 | 0.09 | 0.17 | 0.25 | |
| 11/21/96 | 4.1 U | 0 4.1 | 8.3 | 0.83 0.83 | 37.6 | 0.12 | 0.41 | 0.70 | |
| | | | | | | 0.00 | 0.05 | 0.10 | |
| | | | | | | 0.10 | 0.43 | 0.76 | |
| | | | | | | 1.05 | 1.05 | 1.69 | |
| | | | | | | 20 | | | |



Mill stopped operating March 30, 1997

RECOMP - Ash

Facility

RECOMP, previously Thermal Reduction Company

Sample Name

Lab

Sample Number

Test Number

Date

Congener

| Congener | TEF | Ash Analyses Weyerhaeuser Analytical and Testing Services | | | | | | | | | | | | | | |
|-----------------------------------|-------|--|--------------|--------------|--------|--|------------------|--------------|--------------|--|----|------------------|-------------|-------------|-------|----|
| | | 5714218 1994 r'cvd at lab 4/17/95 | | | | SR 00063 1995 r'cvd at lab 1/29/96 | | | | SR 03237 1996 r'cvd at lab 2/20/97 | | | | | | |
| | | Value (ng/kg) | Q | TEQ (ng/kg) | | | Value (ng/kg) | Q | TEQ (ng/kg) | | | Value (ng/kg) | Q | TEQ (ng/kg) | | |
| | | | | 0 | 1/2DL | DL | | | 0 | 1/2DL | DL | | | 0 | 1/2DL | DL |
| 2,3,7,8-TCDD | 1 | 2.1 | U | 0 | 2.1 | | 1.6 | U | 0 | 1.6 | | 3.6 | U | 0 | 3.6 | |
| 1,2,3,7,8-PCDD | 0.5 | 5.4 | U | 0 | 2.7 | | 3.1 | U | 0 | 1.55 | | 12.2 | U | 0 | 6.1 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 5.68 | | 0.568 | 0.568 | | 0.81 | U | 0 | 0.081 | | 18.1 | | 1.81 | 1.81 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 7.24 | | 0.724 | 0.724 | | 16.3 | | 1.63 | 1.63 | | 29 | | 2.9 | 2.9 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 12.3 | | 1.23 | 1.23 | | 13.7 | | 1.37 | 1.37 | | 47.5 | | 4.75 | 4.75 | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 94.4 | | 0.944 | 0.944 | | 80.8 | | 0.808 | 0.808 | | 302 | | 3.02 | 3.02 | |
| OCDD | 0.001 | 551 | | 0.551 | 0.551 | | 517 | | 0.517 | 0.517 | | 1721 | | 1.721 | 1.721 | |
| 2,3,7,8-TCDF | 0.1 | 30.6 | | 3.06 | 3.06 | | 19.8 | | 1.98 | 1.98 | | 69.6 | | 6.96 | 6.96 | |
| 1,2,3,7,8-PCDF | 0.05 | 8.53 | | 0.4265 | 0.4265 | | 8.76 | | 0.438 | 0.438 | | 29.7 | | 1.485 | 1.485 | |
| 2,3,4,7,8-PCDF | 0.5 | 12.7 | | 6.35 | 6.35 | | 9.74 | | 4.87 | 4.87 | | 20.6 | | 10.3 | 10.3 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 34.6 | | 3.46 | 3.46 | | 30.1 | | 3.01 | 3.01 | | 118 | | 11.8 | 11.8 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 13.7 | | 1.37 | 1.37 | | 16.8 | | 1.68 | 1.68 | | 61.5 | | 6.15 | 6.15 | |
| 2,3,4,6,7,8-HxCDD | 0.1 | 25.5 | | 2.55 | 2.55 | | 26.6 | | 2.66 | 2.66 | | 95.3 | | 9.53 | 9.53 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 1.9 | U | 0 | 0.19 | | 1.4 | U | 0 | 0.14 | | 13.8 | | 1.38 | 1.38 | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 160 | | 1.6 | 1.6 | | 171 | | 1.71 | 1.71 | | 614 | | 6.14 | 6.14 | |
| 1,2,3,4,7,8,9-HpC | 0.01 | 13.6 | | 0.136 | 0.136 | | 12.3 | | 0.123 | 0.123 | | 40.3 | | 0.403 | 0.403 | |
| OCDF | 0.001 | 118 | | 0.118 | 0.118 | | 114 | | 0.114 | 0.114 | | 348 | | 0.348 | 0.348 | |
| EPA TEQ | | | | 23.09 | 28.08 | | | | 20.91 | 24.28 | | | | 68.70 | 78.40 | |
| Waste Production Rate (tons/year) | | 10,744 | | ##### | | | 11,970 | | ##### | | | 12,712 | | ##### | | |
| TEQ Production Rate (mg/d) | | 0.617 | 0.683 | 0.750 | | | 0.622 | 0.672 | 0.722 | | | 2.17 | 2.32 | 2.48 | | |

Comments

All ash samples are total ash (bottom + fly). Fly ash estimated to be 10%
Sampled ash was composited from four quarterly samples to be representative of the year.

RECOMP - Air Emissions

Facility

RECOMP, previously Thermal Reduction Company

Sample Name
Lab
Sample Number
Test Number
Date

Congener

| Congener | TEF | Air Emissions | | | | | |
|--------------------------------|-------|--|---|-----------------|-------------------|-----------------|-----------------|
| | | Twin City Testing, St. Paul, Minnesota | | | | | |
| | | Run 1, 88514611 | | Run 2, 88514612 | | Run 3, 88514613 | |
| 2,3,7,8-TCDD | 1 | 4325J-02 | | 4325J-03 | | 4325J-04 | |
| | | 12/14/88 | | 12/14/88 | | 12/14/88 | |
| | | Value (ng/sec) | Q | TEQ (ng/sec) | Value (ng/sec) | Q | TEQ (ng/sec) |
| 2,3,7,8-TCDD | 1 | 0.8 | | 0.8 | 1.2 | 1.2 | 1.3 |
| 1,2,3,7,8-PCDD | 0.5 | 3.2 | | 1.6 | 5.1 | 2.55 | 10.5 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 7.8 | | 0.78 | 13.7 | 1.37 | 22.3 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 7.6 | | 0.76 | 13.5 | 1.35 | 21.0 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 14.1 | | 1.41 | 21.9 | 2.19 | 36.7 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 117.1 | | 1.171 | 188.9 | 1.889 | 304.4 |
| OCDD | 0.001 | 513.2 | | 0.5132 | 875.9 | 0.8759 | 1212.4 |
| 2,3,7,8-TCDF | 0.1 | 32.2 | | 3.22 | 46.5 | 4.65 | 61.7 |
| 1,2,3,7,8-PCDF | 0.05 | 4.2 | | 0.21 | 4.7 | 0.235 | 8.5 |
| 2,3,4,7,8-PCDF | 0.5 | 11.4 | J | 5.7 | 16.4 | J | 8.2 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 41.2 | | 4.12 | 71.2 | 7.12 | 107.6 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 14.1 | | 1.41 | 23.3 | 2.33 | 32.8 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 4.9 | | 0.49 | 9.6 | 0.96 | 52.5 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 30.9 | | 3.09 | 57.5 | 5.75 | 78.7 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 127.3 | | 1.273 | 228.6 | 2.286 | 283.4 |
| 1,2,3,4,7,8,9-HpC | 0.01 | 7.7 | | 0.077 | 15.1 | 0.151 | 21.0 |
| OCDF | 0.001 | 77.2 | | 0.0772 | 187.5 | 0.1875 | 262.4 |
| EPA TEQ | | | | 26.70 | | 43.29 | 68.97 |
| TEQ load (mg/D) | | | | 2.31 | | 3.74 | 5.96 |
| Ave. TEQ load of 3 runs (mg/D) | | | | | | | |

| | |
|----------|------|
| <DL=0 | 4.00 |
| <DL=1/2D | 4.00 |
| <DL=DL | 4.00 |

Comments

Burns a mixture of municipal (85-100%) and medical waste (0-15%)
 During testing, burned 0-20% medical waste.
 Two incinerators; exhaust gases from each of the secondary chambers are combined and passed through the ESP before venting.
 Run 3 collected during "soot blowing"
 Technically "air starved", but operated more like mass burn

Renton Wastewater Treatment Plant, Metro

| Facility | | Renton Wastewater Treatment Plant, Municipality of Metropolitan Seattle (Metro) | | | | | | | |
|--|---|---|----------------|------------------------|-----------------|----------------------------------|----------------|------------------------|-----------------|
| Lab | Unknown <th data-cs="4" data-kind="parent">1989? (sampling date not given; report date was October, 1989)</th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-cs="4" data-kind="parent">Quanterra Environmental Services</th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> | 1989? (sampling date not given; report date was October, 1989) | | | | Quanterra Environmental Services | | | |
| Date | | | | | | 9/8/97 | | | |
| Units | ng/kg | | | | | pg/g | | | |
| Congener | TEF | Value (ng/kg) | TEQ (<DL=0) | TEQ (<DL=1/2 DL) | TEQ (<DL=DL) | Value (ng/kg) | TEQ (<DL=0) | TEQ (<DL=1/2 DL) | TEQ (<DL=DL) |
| 2,3,7,8-TCDD | 1 | 17 U | 0 | 0 | 17 | 0 U | 0 | 0 | 0 |
| 1,2,3,7,8-PCDD | 0.5 | 17 U | 0 | 0 | 8.5 | 0 U | 0 | 0 | 0 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 43 U | 0 | 0 | 4.3 | 0 U | 0 | 0 | 0 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 43 U | 0 | 0 | 4.3 | 0 U | 0 | 0 | 0 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 43 U | 0 | 0 | 4.3 | 0 U | 0 | 0 | 0 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 450 | 4.5 | 4.5 | | 330 | 3.3 | 3.3 | |
| OCDD | 0.001 | 4500 | 4.5 | 4.5 | | 3500 | 3.5 | 3.5 | |
| 2,3,7,8-TCDF | 0.1 | 17 U | 0 | 0 | 1.7 | 64 | 6.4 | 6.4 | |
| 1,2,3,7,8-PCDF | 0.05 | 17 U | 0 | 0 | 0.85 | 0 U | 0 | 0 | |
| 2,3,4,7,8-PCDF | 0.5 | 17 U | 0 | 0 | 8.5 | 0 U | 0 | 0 | |
| 1,2,3,4,7,8-HxCDF | 0.1 | 43 U | 0 | 0 | 4.3 | 0 U | 0 | 0 | |
| 1,2,3,6,7,8-HxCDF | 0.1 | 43 U | 0 | 0 | 4.3 | 0 U | 0 | 0 | |
| 2,3,4,6,7,8-HxCDF | 0.1 | 43 U | 0 | 0 | 4.3 | 0 U | 0 | 0 | |
| 1,2,3,7,8,9-HxCDF | 0.1 | 43 U | 0 | 0 | 4.3 | 0 U | 0 | 0 | |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 43 | 0.43 | 0.43 | | 57 | 0.57 | 0.57 | |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 43 U | 0 | 0 | 0.43 | 0 U | 0 | 0 | |
| OCDF | 0.001 | 140 | 0.14 | 0.14 | | 180 | 0.18 | 0.18 | |
| EPA TEQ | | | 9.57 | 76.65 | | | 13.95 | 13.95 | |
| Waste Production Rate (estimated dry tons/ye | | 11,000 | | 11,000 | | 12,433.3 | | 12,433 | |
| TEQ load (mg/D) | | | 0.262 | 1.18 | 2.10 | | 0.432 | | |

1989 waste production rate estimated by Kyle Dorsey, Department of Ecology.

Renton Wastewater Treatment Plant, Metro

Tons/year of sludge:

847.4

1893.1

2001.5

2119.7

5337.6

218.6

12.3

3.1

12433.3

Simpson Tacoma Kraft

Facility Simpson Tacoma Kraft Company

Lab Weyerhaeuser

Sample Name Final effluent - composite

Sample Number 78136

Date 2/12-13/1991

Units

pg/L pg/L pg/L pg/L pg/L

| Congener | TEF | Value | Qualifier | (<DL=0) | L | (<DL=DL) |
|---------------------|-------|-------|-----------|---------|-------|----------|
| 2,3,7,8-TCDD | 1 | 79 | | 79 | | 79 |
| 1,2,3,7,8-PCDD | 0.5 | 7 | | 3.5 | | 3.5 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 8 | | 0.8 | | 0.8 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 26 | | 2.6 | | 2.6 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 8 | | 0.8 | | 0.8 |
| 1,2,3,4,6,7,8-HxCDF | 0.01 | 142 | | 1.42 | | 1.42 |
| OCDD | 0.001 | 190 | | 0.19 | | 0.19 |
| 2,3,7,8-TCDF | 0.1 | 71 | | 7.1 | | 7.1 |
| 1,2,3,7,8-PCDF | 0.05 | 7 | | 0.35 | | 0.35 |
| 2,3,4,7,8-PCDF | 0.5 | 39 | | 19.5 | | 19.5 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 12 | | 1.2 | | 1.2 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 15 | | 1.5 | | 1.5 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 3 U | | | | 0.3 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 12 | | 1.2 | | 1.2 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 17 | | 0.17 | | 0.17 |
| 1,2,3,4,7,8,9-HpCDD | 0.01 | 1 | | 0.01 | | 0.01 |
| OCDF | 0.001 | 7 | | 0.007 | | 0.007 |
| EPA TEQ | | | | 119.347 | | 119.647 |
| Flow (MGD) | | | | 30.4 | | 30.4 |
| TEQ load (mg/D) | | | | 13.73 | 13.75 | 13.77 |

Note: Not included in overall average: sample split discrepancies

Simpson Tacoma Kraft - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | 2,3,7,8-TCDF TEF = 0.1 | | Flow (MGD) | TEQ Load (mg/day) | | |
|--|-------------------------|--------------------|---------------------------|--------------------|---------------|----------------------|-------|------|
| | Value (ppq) | TEQ (ppq) <DL = | Value (ppq) | TEQ (ppq) <DL = | | <DL= | 1/2 | DL |
| | 0 | DL | 0 | DL | 0 | DL | DL | DL |
| Simpson Tacoma Kraft, Tacoma - "Secondary Effluent" | | | | | | | | |
| 11/18/91 | 8.2 U | 0 | 8.2 | 4.2 U | 0 | 0.42 | 27.73 | 0.00 |
| 3/30/92 | 1.7 U | 0 | 1.7 | 3.3 U | 0 | 0.33 | 29.68 | 0.00 |
| 7/31/92 | 3.2 U | 0 | 3.2 | 4.9 U | 0 | 0.49 | 30.64 | 0.00 |
| 11/30/92 | 1.9 U | 0 | 1.9 | 3.2 U | 0 | 0.32 | 28.7 | 0.00 |
| 6/15/93 | 2.5 U | 0 | 2.5 | 1.4 U | 0 | 0.14 | 33.6 | 0.00 |
| 3/30/94 | 2.3 U | 0 | 2.3 | 1 U | 0 | 0.1 | 27 | 0.00 |
| 6/27/94 | 6.5 U | 0 | 6.5 | 5.9 U | 0 | 0.59 | 29.94 | 0.00 |
| 9/20/94 | 1.5 U | 0 | 1.5 | 1.8 U | 0 | 0.18 | 33.72 | 0.00 |
| 12/6/94 | 3.9 U | 0 | 3.9 | 2.5 U | 0 | 0.25 | 27.83 | 0.00 |
| 3/30/95 | 2.3 U | 0 | 2.3 | 1.4 U | 0 | 0.14 | 28.2 | 0.00 |
| 6/20/95 | .96 U | 0 | 0.96 | 0.6 U | 0 | 0.06 | 30.3 | 0.00 |
| 10/2/95 | 1.1 U | 0 | 1.1 | .63 U | 0 | 0.063 | 28.66 | 0.00 |
| 12/11/95 | 6.4 U | 0 | 6.4 | 2.6 U | 0 | 0.26 | 38.36 | 0.00 |
| 3/28/96 | 1.3 U | 0 | 1.3 | .59 U | 0 | 0.059 | 25.1 | 0.00 |
| 9/27/96 | 3.2 U | 0 | 3.2 | 2.1 U | 0 | 0.21 | 30.7 | 0.00 |
| 2/6/97 | 2.7 U | 0 | 2.7 | 2.4 U | 0 | 0.24 | 30.62 | 0.00 |
| | | | | | | | | |
| Low | | | | | | 0.00 | | |
| Average | | | | | | 0.06 | | |
| High | | | | | | 0.12 | | |
| Count | | | | | | 0.00 | | |
| | | | | | | 0.19 | | |
| | | | | | | 0.39 | | |
| | | | | | | 0.48 | | |
| | | | | | | 0.97 | | |
| | | | | | | 16 | | |

Simpson Tacoma Kraft

Facility Simpson Tacoma Kraft Company

Lab Weyerhaeuser

Sample Name Final effluent - composite

Sample Number 78136

Date 2/12-13/1991

Units

pg/L pg/L pg/L pg/L pg/L

| Congener | TEF | Value | Qualifier | (<DL=0) | L | (<DL=DL) |
|---------------------|-------|-------|-----------|---------|---|----------|
| 2,3,7,8-TCDD | 1 | 79 | | 79 | | 79 |
| 1,2,3,7,8-PCDD | 0.5 | 7 | | 3.5 | | 3.5 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 8 | | 0.8 | | 0.8 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 26 | | 2.6 | | 2.6 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 8 | | 0.8 | | 0.8 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 142 | | 1.42 | | 1.42 |
| OCDD | 0.001 | 190 | | 0.19 | | 0.19 |
| 2,3,7,8-TCDF | 0.1 | 71 | | 7.1 | | 7.1 |
| 1,2,3,7,8-PCDF | 0.05 | 7 | | 0.35 | | 0.35 |
| 2,3,4,7,8-PCDF | 0.5 | 39 | | 19.5 | | 19.5 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 12 | | 1.2 | | 1.2 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 15 | | 1.5 | | 1.5 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 3 U | | | | 0.3 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 12 | | 1.2 | | 1.2 |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 17 | | 0.17 | | 0.17 |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 1 | | 0.01 | | 0.01 |
| OCDF | 0.001 | 7 | | 0.007 | | 0.007 |

EPA TEQ 119.347 119.647

Flow (MGD) 30.4 30.4

TEQ load (mg/D)

Note: Not included in overall average: sample split discrepancies

Simpson Tacoma Kraft - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | 2,3,7,8-TCDF TEF = 0.1 | | Flow (MGD) | TEQ Load (mg/day) | | |
|--|-------------------------|--------------------|---------------------------|--------------------|---------------|----------------------|-------|------|
| | Value (ppq) | TEQ (ppq) <DL = | Value (ppq) | TEQ (ppq) <DL = | | <DL= | 1/2 | DL |
| | 0 | DL | 0 | DL | 0 | DL | DL | DL |
| Simpson Tacoma Kraft, Tacoma - "Secondary Effluent" | | | | | | | | |
| 11/18/91 | 8.2 U | 0 | 8.2 | 4.2 U | 0 | 0.42 | 27.73 | 0.00 |
| 3/30/92 | 1.7 U | 0 | 1.7 | 3.3 U | 0 | 0.33 | 29.68 | 0.00 |
| 7/31/92 | 3.2 U | 0 | 3.2 | 4.9 U | 0 | 0.49 | 30.64 | 0.00 |
| 11/30/92 | 1.9 U | 0 | 1.9 | 3.2 U | 0 | 0.32 | 28.7 | 0.00 |
| 6/15/93 | 2.5 U | 0 | 2.5 | 1.4 U | 0 | 0.14 | 33.6 | 0.00 |
| 3/30/94 | 2.3 U | 0 | 2.3 | 1 U | 0 | 0.1 | 27 | 0.00 |
| 6/27/94 | 6.5 U | 0 | 6.5 | 5.9 U | 0 | 0.59 | 29.94 | 0.00 |
| 9/20/94 | 1.5 U | 0 | 1.5 | 1.8 U | 0 | 0.18 | 33.72 | 0.00 |
| 12/6/94 | 3.9 U | 0 | 3.9 | 2.5 U | 0 | 0.25 | 27.83 | 0.00 |
| 3/30/95 | 2.3 U | 0 | 2.3 | 1.4 U | 0 | 0.14 | 28.2 | 0.00 |
| 6/20/95 | .96 U | 0 | 0.96 | 0.6 U | 0 | 0.06 | 30.3 | 0.00 |
| 10/2/95 | 1.1 U | 0 | 1.1 | .63 U | 0 | 0.063 | 28.66 | 0.00 |
| 12/11/95 | 6.4 U | 0 | 6.4 | 2.6 U | 0 | 0.26 | 38.36 | 0.00 |
| 3/28/96 | 1.3 U | 0 | 1.3 | .59 U | 0 | 0.059 | 25.1 | 0.00 |
| 9/27/96 | 3.2 U | 0 | 3.2 | 2.1 U | 0 | 0.21 | 30.7 | 0.00 |
| 2/6/97 | 2.7 U | 0 | 2.7 | 2.4 U | 0 | 0.24 | 30.62 | 0.00 |
| | | | | | | | | |
| Low | | | | | | 0.00 | | |
| Average | | | | | | 0.06 | | |
| High | | | | | | 0.12 | | |
| Count | | | | | | 0.00 | | |
| | | | | | | 0.19 | | |
| | | | | | | 0.39 | | |
| | | | | | | 0.48 | | |
| | | | | | | 0.97 | | |
| | | | | | | 16 | | |

Spokane Incinerator - Ash

| Facility Lab | Spokane Waste-to-Energy Facility | | | | | | | | | |
|----------------------------------|----------------------------------|---------|--------|-----------------------------------|---------------|-------------------|-----------------------------------|------------------|-------------------|------------------------|
| | Triangle | | | Laucks Testing Laboratories, Inc. | | | Laucks Testing Laboratories, Inc. | | | |
| Sample Name | Ash | | | Ash, Fly | | | Ash, Bottom | | | |
| Sample Number | 9511338 | | | 1992 | | | 1992 | | | |
| Date | 12/13/95 | | | Value (ppb) | Q | TEQ (ppb) <DL= | Value (ppb) | Q | TEQ (ppb) <DL= | |
| Units | ppt | ppt-TEC | | | | 0 | DL | | | 0 |
| Congener | TEF | | | | | | | | | DL |
| 2,3,7,8-TCDD | 1 | 18.3 | 18.3 | 0.04 | | 0.04 | 0.04 | | U | - |
| 1,2,3,7,8-PCDD | 0.5 | 33.8 | 16.9 | 0.09 | J | 0.05 | 0.05 | | U | - |
| 1,2,3,4,7,8-HxCDD | 0.1 | 15.6 | 1.56 | 0.09 | | 0.01 | 0.01 | | U | - |
| 1,2,3,6,7,8-HxCDD | 0.1 | 28.8 | 2.88 | 0.22 | | 0.02 | 0.02 | | U | - |
| 1,2,3,7,8,9-HxCDD | 0.1 | 38.4 | 3.84 | 0.28 | | 0.03 | 0.03 | | U | - |
| 1,2,3,4,6,7,8-HpCDI | 0.01 | 138 | 1.38 | 2.2 | | 0.02 | 0.02 | | U | - |
| OCDD | 0.001 | 194 | 0.194 | 4.0 | | 0.00 | 0.00 | 0.10 | 0.0001 | 0.00 |
| 2,3,7,8-TCDF | 0.1 | 324 | 32.4 | 0.64 | | 0.06 | 0.06 | U | - | - |
| 1,2,3,7,8-PCDF | 0.05 | 110 | 5.5 | 0.28 | | 0.01 | 0.01 | U | - | - |
| 2,3,4,7,8-PCDF | 0.5 | 105 | 52.5 | 0.31 | | 0.16 | 0.16 | U | - | - |
| 1,2,3,4,7,8-HxCDF | 0.1 | 137 | 13.7 | 0.46 | | 0.05 | 0.05 | U | - | - |
| 1,2,3,6,7,8-HxCDF | 0.1 | 68 | 6.8 | 0.23 | | 0.02 | 0.02 | U | - | - |
| 2,3,4,6,7,8-HxCDF | 0.1 | 50.8 | 5.08 | 0.24 | | 0.02 | 0.02 | U | - | - |
| 1,2,3,7,8,9-HxCDF | 0.1 | 5.2 | 0.52 | U | - | - | - | U | - | - |
| 1,2,3,4,6,7,8-HpCDI | 0.01 | 108 | 1.08 | 1.1 | | 0.01 | 0.01 | U | - | - |
| 1,2,3,4,7,8,9-HpCDI | 0.01 | 12.8 | 0.128 | 0.06 | | 0.00 | 0.00 | U | - | - |
| OCDF | 0.001 | 26.5 | 0.0265 | 0.17 | | 0.00 | 0.00 | U | - | - |
| EPA TEQ | | | 162.8 | | | 0.51 | | | 0.0001 | |
| Waste Production Rate (tons/day) | | | 257 | | | | | | | |
| TEQ Production Rate (mg/d) | | | 38.0 | | | | | | | |
| Waste Production Rate (tons/yr) | | Total | | | Fly Ash (20%) | | | Bottom Ash (80%) | | Total - 1995 |
| | | | | | 19,218 | 19,218 | | 76,872 | 76,872 | <DL=0 <DL=1/2DI <DL=DL |
| TEQ Production Rate (mg/yr) | | | | | 24.30 | | | 0.02 | | 24.32 |

Spokane Incinerator - Air Emissions (page 13 of 27)

Facility
Lab

Triangle

| Sample Name Sample Number Test No. Date | Unit 1 | | | | | | | | | | Unit 2 | | | | | | | | | | Air Emissions | | | | |
|--|---------------|-------------|-----------|-------------|-----------|---------------|-----------|-----------|------------|-----------|---------------|-----------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|--------|
| | Air Emissions | | | | | Air Emissions | | | | | Air Emissions | | | | | Air Emissions | | | | | Run 3 | | | | |
| | Run 1 | | Run 2 | | Run 3 | Run 1 | | Run 2 | | Run 3 | Run 1 | | Run 2 | | Run 3 | Run 1 | | Run 2 | | Run 3 | Run 1 | | Run 3 | | |
| Units | TEF | TEQ ng/dscm | Q (<DL=D) | TEQ ng/dscm | Q (<DL=D) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | Q (<DL=DL) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | Q (<DL=0) | TEQ ng/m3 | |
| Congener | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.002 | U | 0 | 0.002 | 0.003 | U | 0 | 0.003 | 0.003 | U | 0 | 0.003 | 0.003 | U | 0 | 0.003 | 0.003 | U | 0 | 0.003 | 0.002 | U | 0 | 0.002 |
| 1,2,3,7,8-PCDD | 0.5 | 0.003 | U | 0 | 0.0015 | 0.003 | U | 0 | 0.0015 | 0.007 | U | 0 | 0.0035 | 0.003 | U | 0 | 0.0015 | 0.006 | U | 0 | 0.003 | 0.006 | U | 0 | 0.003 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.007 | U | 0 | 0.0007 | 0.003 | U | 0 | 0.0003 | 0.006 | U | 0 | 0.0006 | 0.006 | U | 0 | 0.0006 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.002 | U | 0 | 0.0002 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.002 | U | 0 | 0.0002 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.002 | U | 0 | 0.0002 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.006 | U | 0 | 0.0006 | 0.003 | U | 0 | 0.0003 |
| 1,2,3,4,6,7,8-HxCpC | 0.01 | 0.024 | J | 0.00024 | 0.00024 | 0.014 | 0.00014 | 0.00014 | 0.013 | 0.0001 | 0.0001 | 0.013 | 0.0001 | 0.0001 | 0.009 | 9E-05 | 9E-05 | 0.012 | 0.0001 | 0.0001 | 0.002 | U | 0 | 0.002 | |
| OCDD | 0.001 | 0.215 | 0.000215 | 0.000215 | 0.185 | 0.000185 | 0.000185 | 0.134 | 0.0001 | 0.0001 | 0.136 | 0.0001 | 0.0001 | 0.113 | 0.0001 | 0.0001 | 0.109 | 0.0001 | 0.0001 | 0.002 | 0.0002 | 0.0002 | 0.002 | 0.0002 | 0.0002 |
| 2,3,7,8-TCDF | 0.1 | 0.002 | 0.0002 | 0.0002 | 0.003 | U | 0 | 0.0003 | 0.01 | U | 0 | 0.001 | 0.002 | 0.002 | 0.0002 | 0.0002 | 0.002 | J | 0.0002 | 0.0002 | 0.002 | 0.0002 | 0.0002 | 0.0002 | |
| 1,2,3,7,8-PCDF | 0.05 | 0.002 | U | 0 | 0.0001 | 0.003 | U | 0 | 0.00015 | 0.003 | U | 0 | 0.0002 | 0.003 | U | 0 | 0.0002 | 0.006 | U | 0 | 0.0003 | 0.002 | 0.0001 | 0.0001 | 0.0001 |
| 2,3,4,7,8-PCDF | 0.5 | 0.002 | U | 0 | 0.0001 | 0.003 | U | 0 | 0.00015 | 0.003 | U | 0 | 0.00015 | 0.003 | U | 0 | 0.00015 | 0.006 | U | 0 | 0.0003 | 0.003 | 0.0015 | 0.0015 | 0.0015 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.001 | U | 0 | 0.0001 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.001 | U | 0 | 0.0001 | 0.002 | U | 0 | 0.0002 | 0.003 | U | 0 | 0.0003 | 0.002 | U | 0 | 0.0002 | 0.003 | U | 0 | 0.0003 | 0.002 | U | 0 | 0.0002 |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.01 | 0.0001 | 0.0001 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.002 | U | 0 | 0.0002 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.003 | U | 0 | 0.0003 | 0.006 | U | 0 | 0.0006 | 0.003 | U | 0 | 0.0003 |
| 1,2,3,4,6,7,8-HxCpC | 0.01 | 0.01 | J | 0.00001 | 0.00001 | 0.002 | U | 0 | 0.00002 | 0.003 | U | 0 | 3E-05 | 0.002 | U | 0 | 2E-05 | 0.003 | U | 0 | 3E-05 | 0.003 | U | 0 | 3E-05 |
| 1,2,3,4,7,8,9-HxCpC | 0.01 | 0.002 | U | 0 | 0.00002 | 0.003 | U | 0 | 0.00003 | 0.007 | U | 0 | 7E-05 | 0.003 | U | 0 | 3E-05 | 0.006 | U | 0 | 6E-05 | 0.006 | U | 0 | 6E-05 |
| OCDF | 0.001 | 0.01 | J | 0.00001 | 0.00001 | 0.003 | U | 0 | 0.000003 | 0.007 | U | 0 | 7E-06 | 0.003 | U | 0 | 3E-06 | 0.006 | U | 0 | 6E-06 | 0.009 | U | 0 | 9E-06 |
| EPA TEQ | | | | 0.00177 | 0.00839 | | | 0.000325 | 0.008828 | | | 0.0003 | 0.012 | | | 0.0005 | 0.00886 | | | 0.0004 | 0.0128 | | | 0.0023 | 0.0094 |
| Load (mg/d) | | | | 0.0035 | 0.0166 | | | 0.000667 | 0.0181 | | | ##### | 0.0258 | | | ##### | 0.0183 | | | ##### | 0.0281 | | | 0.00533 | 0.0216 |

Spokane Incinerator - Air Emissions (page 14 of 27)

| Facility Lab | Twin City Testing | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--------------|---------|--|--------------|--------------|---|------------------------------|--------------|---|--------------|------------------------------|---|--------------|--------------|---|--------------|----------|------------------------------|---------|--------------|----------|---------|--------|
| | Unit 1 | | | | | | Unit #2 | | | | | | | | | | | | | | | | | |
| Sample Name Sample Number Test No. Date | Air Emissions Run 1 4491 9/30/93 | | | Air Emissions Run 2* 4492 9/30/93 | | | Air Emissions Run 3 4493 9/30/93 | | | Air Emissions Run 1 4497 9/30/93 | | | Air Emissions Run 2 4498 9/30/93 | | | Air Emissions Run 3 4499 9/30/93 | | | TEQ ng/m3 (<DL=D L) | | | | | |
| | ng/dscm | Q | (<DL=0) | TEQ ng/m3 (<DL=D L) | ng/dscm | Q | (<DL=0) | TEQ ng/m3 (<DL=D L) | ng/dscm | Q | (<DL=0) | TEQ ng/m3 (<DL=D L) | ng/dscm | Q | (<DL=0) | TEQ ng/m3 (<DL=D L) | ng/dscm | Q | (<DL=0) | | | | | |
| Units Congener | TEF | | | | | | | | | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.007 | U | 0 | 0.007 | 0.008 | 0.008 | 0.008 | 0.005 | U | 0 | 0.005 | 0.013 | U | 0 | 0.013 | 0.0004 | U | 0 | 0.0004 | 0.002 | 0.002 | | |
| 1,2,3,7,8-PCDD | 0.5 | 0.009 | U | 0 | 0.0045 | 0.027 | 0.0135 | 0.0135 | 0.011 | U | 0 | 0.0055 | 0.018 | U | 0 | 0.009 | 0.006 | U | 0 | 0.003 | 0.004 | U | 0 | 0.002 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.012 | U | 0 | 0.0012 | 0.054 | 0.0054 | 0.0054 | 0.014 | U | 0 | 0.0014 | 0.028 | U | 0 | 0.0028 | 0.008 | U | 0 | 0.0008 | 0.007 | U | 0 | 0.0007 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.011 | U | 0 | 0.0011 | 0.027 | 0.0027 | 0.0027 | 0.016 | U | 0 | 0.0016 | 0.014 | U | 0 | 0.0014 | 0.006 | U | 0 | 0.0006 | 0.005 | U | 0 | 0.0005 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.011 | U | 0 | 0.0011 | 0.027 | 0.0027 | 0.0027 | 0.02 | U | 0 | 0.002 | 0.026 | U | 0 | 0.0026 | 0.008 | U | 0 | 0.0008 | 0.005 | U | 0 | 0.0005 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.028 | 0.0003 | 0.0003 | 0.054 | 0.00054 | 0.00054 | 0.026 | 0.0003 | 0.0003 | 0.016 | 0.0002 | 0.0002 | 0.021 | 0.00021 | 0.00021 | 0.036 | 0.00036 | 0.0004 | | | | | |
| OCDD | 0.001 | 0.943 | 0.0009 | 0.0009 | 0.832 | 0.000832 | 0.000832 | 1.03 | 0.001 | 0.001 | 0.722 | 0.0007 | 0.0007 | 0.809 | 0.000809 | 0.000809 | 0.863 | 0.000863 | 0.0009 | | | | | |
| 2,3,7,8-TCDF | 0.1 | 0.005 | U | 0 | 0.0005 | 0.005 | 0.0005 | 0.0005 | 0.005 | U | 0 | 0.0005 | 0.01 | U | 0 | 0.001 | 0.006 | U | 0 | 0.0006 | 0.002 | U | 0 | 0.0002 |
| 1,2,3,7,8-PCDF | 0.05 | 0.007 | U | 0 | 0.0004 | 0.027 | 0.00135 | 0.00135 | 0.015 | U | 0 | 0.0008 | 0.011 | U | 0 | 0.0006 | 0.002 | 0.0001 | 0.0001 | 0.003 | U | 0 | 0.0002 | |
| 2,3,4,7,8-PCDF | 0.5 | 0.012 | U | 0 | 0.006 | 0.054 | 0.027 | 0.027 | 0.014 | U | 0 | 0.007 | 0.011 | U | 0 | 0.0055 | 0.005 | U | 0 | 0.0025 | 0.003 | U | 0 | 0.0015 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.009 | U | 0 | 0.0009 | 0.054 | 0.0054 | 0.0054 | 0.014 | U | 0 | 0.0014 | 0.026 | U | 0 | 0.0026 | 0.008 | U | 0 | 0.0008 | 0.003 | U | 0 | 0.0003 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.005 | 0.0005 | 0.0005 | 0.027 | 0.0027 | 0.0027 | 0.008 | 0.008 | 0.008 | 0.022 | 0.0022 | 0.0022 | 0.008 | U | 0 | 0.0008 | 0.005 | U | 0 | 0.0005 | | | |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.006 | U | 0 | 0.0006 | 0.054 | 0.0054 | 0.0054 | 0.01 | U | 0 | 0.001 | 0.021 | U | 0 | 0.0021 | 0.005 | U | 0 | 0.0005 | 0.003 | U | 0 | 0.0003 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.01 | U | 0 | 0.001 | 0.08 | 0.008 | 0.008 | 0.018 | U | 0 | 0.0018 | 0.026 | U | 0 | 0.0026 | 0.009 | U | 0 | 0.0009 | 0.004 | U | 0 | 0.0004 |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.028 | U | 0 | 0.0003 | 0.054 | 0.00054 | 0.00054 | 0.034 | U | 0 | 0.0003 | 0.030 | U | 0 | 0.0003 | 0.07 | U | 0 | 0.0007 | 0.023 | U | 0 | 0.0002 |
| 1,2,3,4,7,8-HpC | 0.01 | 0.016 | U | 0 | 0.0002 | 0.107 | 0.00107 | 0.00107 | 0.026 | U | 0 | 0.0003 | 0.023 | U | 0 | 0.0002 | 0.015 | U | 0 | 0.00015 | 0.007 | U | 0 | 7E-05 |
| OCDF | 0.001 | 0.019 | 2E-05 | 2E-05 | 0.027 | 0.000027 | 0.000027 | 0.029 | 3E-05 | 3E-05 | 0.040 | U | 0 | 4E-05 | 0.112 | U | 0 | 0.000112 | 0.22 | 0.00022 | 0.0002 | | | |
| EPA TEQ | | | | | 0.0017 | 0.0264 | | | 0.085659 | 0.0857 | | 0.0013 | 0.0307 | | | 0.0009 | 0.0468 | | 0.00112 | 0.0138 | | 0.003443 | 0.0108 | |
| Load (mg/d) | | | | | 0.00424 | 0.0643 | | | 0.205 | 0.205 | | 0.003 | 0.075 | | | 0.00231 | 0.12233 | | 0.00294 | 0.03617 | | 0.00891 | 0.02793 | |
| Average of 2 Runs, Unit 1: | | | | Sum of 2 units, 9/30/93: | | | | | | | | Average of 3 Runs, Unit 2: | | | | | | | | | | | | |
| <DL=0 0.00373 | | | | <DL=0 0.0084 | | | | <DL=0 0.00472 | | | | <DL=DL 0.0695 | | | | <DL=DL 0.0621 | | | | | | | | |
| * These results are not considered representative, therefore, only runs 1 and 3 are averaged. | | | | | | | | | | | | | | | | | | | | | | | | |

Spokane Incinerator - Air Emissions (page 15 of 27)

Facility
Lab

Huntingdon Engineering and Environmental

| Sample Name Sample Number Test No. Date | Unit 1 | | | | | | | | | | | | Unit 2 | | | | | | | | | | | | | |
|--|--|------------------------------|---------|---|-------------------------------|------------------------------|---|------------------------------|---------|--|---------|------------------------------|---|------------------------------|---------|---|---------|------------------------------|---------|------------------------------|---------|------------------------------|---------|---------|---------|--|
| | Air Emissions Run 1 5858 6/9/94 | | | Air Emissions Run 2 5859 6/10/94 | | | Air Emissions Run 3 5860 6/10/94 | | | Air Emissions Run 1 5861 6/9/94 | | | Air Emissions Run 2 5862 6/10/94 | | | Air Emissions Run 3 5863 6/10/94 | | | | | | | | | | |
| | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | ng/dscm | TEQ ng/m3 (<DL=D L) | | | | |
| Units Congener | TEF | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.003 U | 0 | 0.003 | 0.004 U | 0 | 0.004 | 0.003 U | 0 | 0.003 | 0.013 | 0.013 | 0.013 | 0.007 | 0.007 | 0.007 | 0.012 U | 0 | 0.012 | 0.04 | 0.0004 | 0.0004 | 0.04 | 0.0004 | 0.0004 | |
| 1,2,3,7,8-PCDD | 0.5 | 0.004 U | 0 | 0.002 | 0.004 U | 0 | 0.002 | 0.004 U | 0 | 0.002 | 0.02 | 0.01 | 0.01 | 0.004 U | 0 | 0.002 | 0.02 U | 0 | 0.001 | 0.037 U | 0 | 0.0037 | 0.037 U | 0 | 0.0037 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.004 U | 0 | 0.0004 | 0.004 | 0.0004 | 0.004 | 0.002 U | 0 | 0.0002 | 0.033 | 0.0033 | 0.0033 | 0.005 U | 0 | 0.0005 | 0.015 | 0.0015 | 0.0015 | 0.037 U | 0 | 0.0037 | 0.037 U | 0 | 0.0037 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.005 U | 0 | 0.0005 | 0.004 U | 0 | 0.0004 | 0.003 | 0.0003 | 0.0003 | 0.06 | 0.006 | 0.006 | 0.015 | 0.0015 | 0.0015 | 0.015 | 0.0006 | 0.0006 | 0.015 U | 0 | 0.0015 | 0.015 U | 0 | 0.0015 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.003 U | 0 | 0.0003 | 0.004 | 0.0004 | 0.004 | 0.005 U | 0 | 0.0005 | 0.019 | 0.0019 | 0.0019 | 0.006 | 0.0006 | 0.0006 | 0.015 U | 0 | 0.0015 | 0.015 U | 0 | 0.0015 | 0.015 U | 0 | 0.0015 | |
| 1,2,3,4,6,7,8-HxCDD | 0.01 | 0.02 | 0.0002 | 0.0002 | 0.025 | 0.0003 | 0.0003 | 0.013 | 0.0001 | 0.0001 | 0.079 | 0.0008 | 0.0008 | 0.049 | 0.0005 | 0.0005 | 0.04 | 0.0004 | 0.0004 | 0.159 | 0.0002 | 0.0002 | 0.159 | 0.0002 | 0.0002 | |
| OCDD | 0.001 | 0.193 | 0.0002 | 0.0002 | 0.092 | 9E-05 | 9E-05 | 0.178 | 0.0002 | 0.0002 | 0.065 | 7E-05 | 7E-05 | 0.685 | 0.0007 | 0.0007 | 0.159 | 0.0002 | 0.0002 | 0.159 | 0.0002 | 0.0002 | 0.159 | 0.0002 | 0.0002 | |
| 2,3,7,8-TCDF | 0.1 | 0.003 U | 0 | 0.0003 | 0.006 | 0.0006 | 0.0006 | 0.003 | 0.0003 | 0.0003 | 0.087 | 0.0087 | 0.0087 | 0.013 | 0.0013 | 0.0013 | 0.008 | 0.0008 | 0.0008 | 0.013 U | 0 | 0.0013 | 0.008 | 0.0008 | 0.0008 | |
| 1,2,3,7,8-PCDF | 0.05 | 0.004 U | 0 | 0.0002 | 0.008 | 0.0004 | 0.0004 | 0.003 | 0.0002 | 0.0002 | 0.106 | 0.0053 | 0.0053 | 0.016 | 0.0008 | 0.0008 | 0.031 U | 0 | 0.0016 | 0.031 | 0.00155 | 0.00155 | 0.031 | 0.00155 | 0.00155 | |
| 2,3,4,7,8-PCDF | 0.5 | 0.004 U | 0 | 0.0002 | 0.012 | 0.006 | 0.006 | 0.003 | 0.0015 | 0.0015 | 0.221 | 0.1105 | 0.1105 | 0.031 | 0.0155 | 0.0155 | 0.031 | 0.0155 | 0.0155 | 0.031 | 0.0155 | 0.0155 | 0.031 | 0.0155 | 0.0155 | |
| 1,2,3,4,7,8-HxCDF | 0.1 | 0.008 U | 0 | 0.0008 | 0.007 | 0.0007 | 0.0007 | 0.003 | 0.0003 | 0.0003 | 0.123 | 0.0123 | 0.0123 | 0.028 | 0.0028 | 0.0028 | 0.054 U | 0 | 0.0054 | 0.028 | 0.0028 | 0.0028 | 0.054 U | 0 | 0.0054 | |
| 1,2,3,6,7,8-HxCDF | 0.1 | 0.004 | 0.0004 | 0.0004 | 0.007 | 0.0007 | 0.0007 | 0.003 U | 0 | 0.0003 | 0.114 | 0.0114 | 0.0114 | 0.024 | 0.0024 | 0.0024 | 0.023 U | 0 | 0.0023 | 0.024 | 0.0024 | 0.0024 | 0.023 U | 0 | 0.0023 | |
| 2,3,4,6,7,8-HxCDF | 0.1 | 0.002 | 0.0002 | 0.0002 | 0.011 | 0.0011 | 0.0011 | 0.004 | 0.0004 | 0.0004 | 0.114 | 0.0114 | 0.0114 | 0.034 | 0.0034 | 0.0034 | 0.031 | 0.0031 | 0.0031 | 0.031 | 0.0031 | 0.0031 | 0.031 | 0.0031 | 0.0031 | |
| 1,2,3,7,8,9-HxCDF | 0.1 | 0.007 U | 0 | 0.0007 | 0.006 | 0.0006 | 0.0006 | 0.004 U | 0 | 0.0004 | 0.03 | 0.003 | 0.003 | 0.009 | 0.0009 | 0.0009 | 0.031 U | 0 | 0.0031 | 0.009 | 0.0009 | 0.0009 | 0.031 U | 0 | 0.0031 | |
| 1,2,3,4,6,7,8-HxCDD | 0.01 | 0.007 | 7E-05 | 7E-05 | 0.021 | 0.0002 | 0.0002 | 0.006 U | 0 | 6E-05 | 0.133 | 0.0013 | 0.0013 | 0.043 | 0.0004 | 0.0004 | 0.094 U | 0 | 0.0009 | 0.043 | 0.0004 | 0.0004 | 0.094 U | 0 | 0.0009 | |
| 1,2,3,4,7,8-HxCDD | 0.01 | 0.01 U | 0 | 0.0001 | 0.008 U | 0 | 8E-05 | 0.001 U | 0 | 1E-05 | 0.014 U | 0 | 0.0001 | 0.005 U | 0 | 5E-05 | 0.014 U | 0 | 0.0001 | 0.014 U | 0 | 0.0001 | 0.014 U | 0 | 0.0001 | |
| OCDF | 0.001 | 0.019 | 2E-05 | 2E-05 | 0.011 | 1E-05 | 1E-05 | 0.007 | 7E-06 | 7E-06 | 0.011 | 1E-05 | 1E-05 | 0.013 U | 0 | 1E-05 | 0.04 U | 0 | 4E-05 | 0.01996 | 0.0643 | 0.01996 | 0.0643 | 0.01996 | 0.0643 | |
| EPA TEQ | | 0.00108 | 0.0114 | | 0.01146 | 0.0179 | | 0.00327 | 0.0097 | | 0.1990 | 0.1991 | | 0.03781 | 0.0404 | | 0.01996 | 0.0643 | | | | | | | | |
| Load (mg/d) | | 0.00261 | 0.02745 | | 0.02787 | 0.04363 | | 0.00794 | 0.02369 | | 0.5290 | 0.5294 | | 0.0954 | 0.1019 | | 0.0511 | 0.1647 | | | | | | | | |
| Average of 3 Runs, Unit 1: | | | | | Sum of 2 units, 6/9 to 10/94: | | | | | Average of 3 Runs, Unit 2: | | | | | | | | | | | | | | | | |
| <DL=0 | | | | | <DL=0 | | | | | <DL=0 | | | | | <DL=0 | | | | | <DL=0 | | | | | | |
| <DL=DL | | | | | <DL=1/2DL | | | | | <DL=DL | | | | | <DL=DL | | | | | <DL=DL | | | | | | |

| Sample Name | Unit 1 | | | | | | | | | | | | Unit 2 | | | | | | | | | | | | | | | |
|-------------------|---------------|----------------|--------------|--------------------------|---------------|----------------|--------------|---|---------------|----------------|--------------|--|---------------|----------------|--------------|--|---------------|----------------|--|---|---------------|----------------|---|------------------|---------|---------|---|--------|
| | Air Emissions | | | | Air Emissions | | | | Air Emissions | | | | Air Emissions | | | | Air Emissions | | | | Air Emissions | | | | | | | |
| Test No. | Run 1 | | | Run 2 | | | Run 3 | | | Run 1 | | | Run 2 | | | Run 3 | | | Run 1 | | | Run 2 | | | Run 3 | | | |
| | 5/11-12/95 | | | 5/11-12/95 | | | 5/11-12/95 | | | 5/11-12/95 | | | 5/11-12/95 | | | 5/11-12/95 | | | 5/11-12/95 | | | 5/11-12/95 | | | | | | |
| Units | TEF | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m3 (<DL=DL) | TEF | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m3 <th>TEF</th> <th>TEQ ng/dscm</th> <th>Q (<DL=0)</th> <th>TEQ ng/m3<br (<dl="DL)</th"/><th>TEF</th><th>TEQ ng/dscm</th><th>Q (<DL=0)</th><th>TEQ ng/m3<br (<dl="DL)</th"/><th>TEF</th><th>TEQ ng/dscm</th><th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/><th>TEF</th><th>TEQ ng/dscm</th><th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/></th></th></th></th></th></th> | TEF | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m3 <th>TEF</th> <th>TEQ ng/dscm</th> <th>Q (<DL=0)</th> <th>TEQ ng/m3<br (<dl="DL)</th"/><th>TEF</th><th>TEQ ng/dscm</th><th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/><th>TEF</th><th>TEQ ng/dscm</th><th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/></th></th></th></th></th> | TEF | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m3 <th>TEF</th> <th>TEQ ng/dscm</th> <th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/><th>TEF</th><th>TEQ ng/dscm</th><th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/></th></th></th></th> | TEF | TEQ ng/dscm | Q <th>TEQ ng/m3<br (<dl="DL)</th"/><th>TEF</th><th>TEQ ng/dscm</th><th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/></th></th></th> | TEQ ng/m3 <th>TEF</th> <th>TEQ ng/dscm</th> <th>Q<br (<dl="0)</th"/><th>TEQ ng/m3<br (<dl="DL)</th"/></th></th> | TEF | TEQ ng/dscm | Q <th>TEQ ng/m3<br (<dl="DL)</th"/></th> | TEQ ng/m3 | | | | |
| Congener | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.006 | U | 0 | 0.006 | 0.006 | U | 0 | 0.006 | 0.006 | U | 0 | 0.006 | 0.006 | U | 0 | 0.006 | 0.006 | U | 0 | 0.006 | 0.006 | U | 0 | 0.006 | | | |
| 1,2,3,7,8-PCDD | 0.5 | 0.03 | U | 0 | 0.015 | 0.03 | U | 0 | 0.015 | 0.029 | U | 0 | 0.0145 | 0.03 | U | 0 | 0.015 | 0.031 | U | 0 | 0.0155 | 0.03 | U | 0 | 0.015 | | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.03 | U | 0 | 0.003 | 0.03 | U | 0 | 0.003 | 0.029 | U | 0 | 0.0029 | 0.03 | U | 0 | 0.003 | 0.031 | U | 0 | 0.0031 | 0.03 | U | 0 | 0.003 | | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.03 | U | 0 | 0.003 | 0.03 | U | 0 | 0.003 | 0.029 | U | 0 | 0.0029 | 0.03 | U | 0 | 0.003 | 0.031 | U | 0 | 0.0031 | 0.03 | U | 0 | 0.003 | | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.03 | U | 0 | 0.003 | 0.03 | U | 0 | 0.003 | 0.029 | U | 0 | 0.0029 | 0.03 | U | 0 | 0.003 | 0.031 | U | 0 | 0.0031 | 0.03 | U | 0 | 0.003 | | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.03 | U | 0 | 0.0003 | 0.03 | U | 0 | 0.0003 | 0.029 | U | 0 | 0.00029 | 0.03 | U | 0 | 0.0003 | 0.031 | U | 0 | 0.00031 | 0.03 | U | 0 | 0.0003 | | | |
| OCDD | 0.001 | 0.172 | 0.000172 | 0.000172 | 0.06 | 0.00006 | 0.00006 | 0.058 | U | 0 | 0.000058 | 0.061 | U | 0 | 0.000061 | 0.076 | 0.000076 | 0.000076 | 0.06 | U | 0 | 0.00006 | 0.06 | U | 0 | 0.00006 | | |
| 2,3,7,8-TCDF | 0.1 | 0.006 | U | 0 | 0.0006 | 0.022 | J | 0.0022 | 0.022 | 0 | 0 | 0 | 0.006 | U | 0 | 0.0006 | 0.02 | J | 0.002 | 0.002 | 0.006 | U | 0 | 0.0006 | 0.06 | U | 0 | 0.0006 |
| 1,2,3,7,8-PCDF | 0.05 | 0.03 | U | 0 | 0.0015 | 0.03 | U | 0 | 0.0015 | 0.029 | U | 0 | 0.00145 | 0.03 | U | 0 | 0.0015 | 0.031 | U | 0 | 0.00155 | 0.03 | U | 0 | 0.0015 | | | |
| 2,3,4,7,8-PCDF | 0.5 | 0.03 | U | 0 | 0.015 | 0.03 | U | 0 | 0.015 | 0.029 | U | 0 | 0.0145 | 0.03 | U | 0 | 0.015 | 0.031 | U | 0 | 0.0155 | 0.03 | U | 0 | 0.015 | | | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.03 | U | 0 | 0.003 | 0.03 | U | 0 | 0.003 | 0.029 | U | 0 | 0.0029 | 0.03 | U | 0 | 0.003 | 0.031 | U | 0 | 0.0031 | 0.03 | U | 0 | 0.003 | | | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.03 | U | 0 | 0.003 | 0.03 | U | 0 | 0.003 | 0.029 | U | 0 | 0.0029 | 0.03 | U | 0 | 0.003 | 0.031 | U | 0 | 0.0031 | 0.03 | U | 0 | 0.003 | | | |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.03 | U | 0 | 0.003 | 0.03 | U | 0 | 0.003 | 0.029 | U | 0 | 0.0029 | 0.03 | U | 0 | 0.003 | 0.031 | U | 0 | 0.0031 | 0.03 | U | 0 | 0.003 | | | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.03 | U | 0 | 0.003 | 0.03 | U | 0 | 0.003 | 0.029 | U | 0 | 0.0029 | 0.03 | U | 0 | 0.003 | 0.031 | U | 0 | 0.0031 | 0.03 | U | 0 | 0.003 | | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.03 | U | 0 | 0.0003 | 0.03 | U | 0 | 0.0003 | 0.029 | U | 0 | 0.00029 | 0.03 | U | 0 | 0.0003 | 0.031 | U | 0 | 0.00031 | 0.03 | U | 0 | 0.0003 | | | |
| 1,2,3,4,7,8,9-HpC | 0.01 | 0.03 | U | 0 | 0.0003 | 0.03 | U | 0 | 0.0003 | 0.029 | U | 0 | 0.00029 | 0.03 | U | 0 | 0.0003 | 0.031 | U | 0 | 0.00031 | 0.03 | U | 0 | 0.0003 | | | |
| OCDF | 0.001 | 0.059 | U | 0 | 0.000059 | 0.06 | U | 0 | 0.00006 | 0.058 | U | 0 | 0.000058 | 0.061 | U | 0 | 0.000061 | 0.062 | U | 0 | 0.000062 | 0.06 | U | 0 | 0.00006 | | | |
| EPA TEQ | | | 0.00017 | 0.0602 | | 0.00226 | 0.0617 | | 0.00000 | 0.0577 | | 0.00000 | 0.0601 | | 0.00208 | 0.0633 | | 0.00000 | 0.060- | | | | | | | | | |
| Load (mg/d) | | | 0.0004 | 0.1563 | | 0.0058 | 0.1588 | | 0.0000 | 0.1513 | | 0.0000 | 0.1568 | | 0.0053 | 0.1618 | | 0.0000 | 0.157- | | | | | | | | | |

Spokane Incinerator - Air Emissions (page 17 of 27)

Facility
Lab

Alta Analytical Labs, Inc.

| Sample Name Sample Number Test No. Date | Units Congener | Unit 1 FF Outlet | | | | | | | | | | | | Unit 2 FF Outlet | | | | | | | | | | | |
|--|-------------------|----------------------------------|--------------|--------------------------------------|----------------|----------------------------|--------------------------------------|-----------------------|--------------|--------------------------------------|----------------|-----------------------|--------------------------------------|------------------------|--------------|--------------------------------------|----------------|------------------------|--------------------------------------|-----------------------|--------------|--------------------------------------|---------|---------|---------|
| | | Air Emissions Run 1 | | | | Air Emissions Run 2 | | | | Air Emissions Run 3 | | | | Air Emissions Run 1 | | | | Air Emissions Run 2 | | | | Air Emissions Run 3 | | | |
| | | October 1-2, 1997 | | October 1-2, 1997 | | October 1-2, 1997 | | September 23-24, 1997 | | September 23-24, 1997 | | September 23-24, 1997 | | September 23-24, 1997 | | September 23-24, 1997 | | September 23-24, 1997 | | September 23-24, 1997 | | September 23-24, 1997 | | | |
| | | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m ³ (<DL=DL) | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m ³ (<DL=DL) | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m ³ (<DL=DL) | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m ³ (<DL=DL) | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m ³ (<DL=DL) | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m ³ (<DL=DL) | TEQ ng/dscm | Q (<DL=0) | TEQ ng/m ³ (<DL=DL) | | | |
| 2,3,7,8-TCDD | 1 | 0.009 | 0.009 | 0.009 | 0.009 | 0.009 | 0.009 | 0.005 | 0.005 | 0.005 | 0 | 0 | 0 | 0.002 | 0.002 | 0.002 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1,2,3,7,8-PCDD | 0.5 | 0.061 | 0.0305 | 0.0305 | 0.053 | 0.0265 | 0.0265 | 0.026 | 0.013 | 0.013 | 0.002 | 0.001 | 0.001 | 0.003 | 0.0015 | 0.0015 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.142 | 0.0142 | 0.0142 | 0.122 | 0.0122 | 0.0122 | 0.054 | 0.0054 | 0.0054 | 0.002 | 0.0002 | 0.0002 | 0.003 | 0.0003 | 0.0003 | 0.002 | 0.0002 | 0.0002 | 0.004 | 0.0004 | 0.0004 | 0.002 | 0.0002 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.239 | 0.0239 | 0.0239 | 0.191 | 0.0191 | 0.0191 | 0.082 | 0.0082 | 0.0082 | 0.004 | 0.0004 | 0.0004 | 0.006 | 0.0006 | 0.0006 | 0.006 | 0.0006 | 0.0006 | 0.004 | 0.0004 | 0.0004 | 0.002 | 0.0002 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.18 | 0.018 | 0.018 | 0.156 | 0.0156 | 0.0156 | 0.067 | 0.0067 | 0.0067 | 0.002 | 0.0002 | 0.0002 | 0.003 | 0.0003 | 0.0003 | 0.002 | 0.0002 | 0.0002 | 0.002 | 0.0002 | 0.0002 | 0.002 | 0.0002 | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 2.44 | 0.0244 | 0.0244 | 1.99 | 0.0199 | 0.0199 | 0.899 | 0.00899 | 0.00899 | 0.025 | 0.00025 | 0.00025 | 0.03 | 0.0003 | 0.0003 | 0.022 | 0.00022 | 0.00022 | 0.035 | 0.00035 | 0.00035 | 0.035 | 0.00035 | |
| OCDD | 0.001 | 6.86 D | 0 | 0.00686 | 6.09 D | 0 | 0.00609 | 3.08 D | 0 | 0.00308 | 0.074 D | 0 | 0.00074 | 0.074 D | 0 | 0.00074 | 0.035 D | 0 | 0.00035 | 0.035 D | 0 | 0.00035 | 0.035 D | 0 | 0.00035 |
| 2,3,7,8-TCDF | 0.1 | 0.053 | 0.0053 | 0.0053 | 0.05 | 0.005 | 0.005 | 0.023 | 0.0023 | 0.0023 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | |
| 1,2,3,7,8-PCDF | 0.05 | 0.119 | 0.00595 | 0.00595 | 0.106 | 0.0053 | 0.0053 | 0.049 | 0.00245 | 0.00245 | 0.006 | 0.0003 | 0.0003 | 0.006 | 0.0003 | 0.0003 | 0.005 | 0.0003 | 0.0003 | 0.005 | 0.00025 | 0.00025 | 0.005 | 0.00025 | |
| 2,3,4,7,8-PCDF | 0.5 | 0.239 | 0.1195 | 0.1195 | 0.201 | 0.1005 | 0.1005 | 0.121 | 0.0605 | 0.0605 | 0.008 | 0.004 | 0.004 | 0.012 | 0.006 | 0.006 | 0.008 | 0.004 | 0.004 | 0.008 | 0.004 | 0.004 | 0.008 | 0.004 | |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.407 | 0.0407 | 0.0407 | 0.344 | 0.0344 | 0.0344 | 0.159 | 0.0159 | 0.0159 | 0.006 | 0.0006 | 0.0006 | 0.007 | 0.0007 | 0.0007 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.381 | 0.0381 | 0.0381 | 0.318 | 0.0318 | 0.0318 | 0.141 | 0.0141 | 0.0141 | 0.005 | 0.0005 | 0.0005 | 0.006 | 0.0006 | 0.0006 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | 0.0005 | 0.005 | 0.0005 | |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.711 | 0.0711 | 0.0711 | 0.609 | 0.0609 | 0.0609 | 0.283 | 0.0283 | 0.0283 | 0.007 | 0.0007 | 0.0007 | 0.008 | 0.0008 | 0.0008 | 0.006 | 0.0006 | 0.0006 | 0.006 | 0.0006 | 0.0006 | 0.006 | 0.0006 | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.254 | 0.0254 | 0.0254 | 0.212 | 0.0212 | 0.0212 | 0.09 | 0.009 | 0.009 | 0.003 | 0.0003 | 0.0003 | 0.003 | 0.0003 | 0.0003 | 0.002 | 0.0002 | 0.0002 | 0.002 | 0.0002 | 0.0002 | 0.002 | 0.0002 | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 3.56 | 0.0356 | 0.0356 | 2.91 | 0.0291 | 0.0291 | 1.34 | 0.0134 | 0.0134 | 0.017 | 0.00017 | 0.00017 | 0.018 | 0.00018 | 0.00018 | 0.013 | 0.00013 | 0.00013 | 0.013 | 0.00013 | 0.00013 | 0.013 | 0.00013 | |
| 1,2,3,4,7,8-HpC | 0.01 | 0.33 | 0.0033 | 0.0033 | 0.265 | 0.00265 | 0.00265 | 0.121 | 0.00121 | 0.00121 | 0.003 | 0.00003 | 0.00003 | 0.002 | 0.00002 | 0.00002 | 0.002 | 0.00002 | 0.00002 | 0.002 | 0.00002 | 0.00002 | 0.002 | 0.00002 | |
| OCDF | 0.001 | 1.91 D | 0 | 0.00191 | 1.83 D | 0 | 0.00183 | 0.873 D | 0 | 0.000873 | 0.014 D | 0 | 0.000014 | 0.017 D | 0 | 0.000017 | 0.009 D | 0 | 0.000009 | 0.00872 | 0.0088 | 0.00872 | 0.0088 | | |
| EPA TEQ | | 0.46495 | 0.4737 | | 0.39315 | 0.4011 | | 0.19445 | 0.1984 | | 0.00915 | 0.0092 | | 0.01440 | 0.0145 | | | | | | | | | | |
| Load (mg/d) | | 1.2840 | 1.3082 | | 1.0464 | 1.0675 | | 0.5374 | 0.5483 | | 0.0242 | 0.0244 | | 0.0367 | 0.0370 | | | | | | | | | | |
| Average of 3 Runs, Unit 1: | | Sum of 2 units, 5/11 to 12/1995: | | | | Average of 3 Runs, Unit 2: | | | | | | | | | | | | | | | | | | | |
| <DL=0 | | 0.95592 | | | | <DL=0 | | | | | | | | | | | | <DL=0 | | | | | | | |
| <DL=DL | | 0.9747 | | | | <DL=1/2DL | | | | | | | | | | | | <DL=DL | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

D = This compound was detected in the method, field, and trip blanks.

Spokane Municipal Incinerator - Air Emissions (1991) (page 18 of 27)

| | | | | | | | | | | | | | | |
|-----------------------------|--------------------------------------|--------------------|-------------------|-------------|--------------------------|-------------------|-------------|--------------------------|-------------------|-------------|--------------------------|-------------------|-------------|---------|
| Facility | Spokane Waste-to-Energy Facility | | | | | | | | | | | | | |
| Sample Name | Unit 1 Air Emissions, November, 1991 | | | | | | | | | | | | | |
| Lab | Triangle Laboratories, Inc. | | | | | | | | | | | | | |
| Sample ID | Run 1 | | | | | | | | | | | | | |
| Lab ID | Project No: 5887 Unit 1 FF OUTLET | | | | | | | | | | | | | |
| Date | November, 1991 | | | | | | | | | | | | | |
| Congener | TEF | Value (ng/smpl) | Value (mg/day) | TEQ <DL= | Value (ng/sampl e) | Value (mg/day) | TEQ <DL= | Value (ng/sampl e) | Value (mg/day) | TEQ <DL= | Value (ng/sampl e) | Value (mg/day) | TEQ <DL= | 0 DL |
| 2,3,7,8-TCDD | 1 | 0.01 J | 0.004 J | 0.004 ##### | 0.01 J | 0.004 J | 0.004 ##### | 0.008 U | 0.003 U | 0.000 ##### | 0.008 U | 0.003 U | 0.000 ##### | 0 DL |
| 1,2,3,7,8-PCDD | 0.5 | 0.22 | 0.096 | 0.048 ##### | 0.07 | 0.031 | 0.015 ##### | 0.08 | 0.034 | 0.017 ##### | 0.08 | 0.034 | 0.017 ##### | 0 DL |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.34 | 0.148 | 0.015 ##### | 0.07 | 0.031 | 0.003 ##### | 0.09 | 0.039 | 0.004 ##### | 0.09 | 0.039 | 0.004 ##### | 0 DL |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.62 | 0.270 | 0.027 ##### | 0.18 | 0.079 | 0.008 ##### | 0.19 | 0.082 | 0.008 ##### | 0.19 | 0.082 | 0.008 ##### | 0 DL |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.81 | 0.352 | 0.035 ##### | 0.23 | 0.101 | 0.010 ##### | 0.26 | 0.112 | 0.011 ##### | 0.26 | 0.112 | 0.011 ##### | 0 DL |
| 1,2,3,4,6,7,8-HpC | 0.01 | 2.6 | 1.131 | 0.011 ##### | 0.96 | 0.422 | 0.004 ##### | 0.97 | 0.417 | 0.004 ##### | 0.97 | 0.417 | 0.004 ##### | 0 DL |
| OCDD | 0.001 | 1.5 | 0.653 | 0.001 ##### | 0.90 | 0.396 | 0.000 ##### | 0.80 J | 0.344 J | 0.000 ##### | 0.80 J | 0.344 J | 0.000 ##### | 0 DL |
| 2,3,7,8-TCDF | 0.1 | 0.18 | 0.078 | 0.008 ##### | 0.05 | 0.022 | 0.002 ##### | 0.05 | 0.021 | 0.002 ##### | 0.05 | 0.021 | 0.002 ##### | 0 DL |
| 1,2,3,7,8-PCDF | 0.05 | 0.34 J | 0.148 J | 0.008 ##### | 0.12 J | 0.053 J | 0.003 ##### | 0.11 J | 0.047 J | 0.002 ##### | 0.11 J | 0.047 J | 0.002 ##### | 0 DL |
| 2,3,4,7,8-PCDF | 0.5 | 0.78 | 0.339 | 0.170 ##### | 0.21 | 0.092 | 0.046 ##### | 0.21 | 0.090 | 0.045 ##### | 0.21 | 0.090 | 0.045 ##### | 0 DL |
| 1,2,3,4,7,8-HxCDD | 0.1 | 1.6 | 0.696 | 0.070 ##### | 0.43 | 0.189 | 0.019 ##### | 0.45 | 0.193 | 0.019 ##### | 0.45 | 0.193 | 0.019 ##### | 0 DL |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.78 | 0.339 | 0.034 ##### | 0.22 | 0.097 | 0.010 ##### | 0.21 | 0.090 | 0.009 ##### | 0.21 | 0.090 | 0.009 ##### | 0 DL |
| 2,3,4,6,7,8-HxCDD | 0.1 | 1.1 | 0.479 | 0.048 ##### | 0.32 | 0.141 | 0.014 ##### | 0.29 | 0.125 | 0.012 ##### | 0.29 | 0.125 | 0.012 ##### | 0 DL |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.06 | 0.026 | 0.003 ##### | 0.03 U | 0.013 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 ##### | 0 DL |
| 1,2,3,4,6,7,8-HpC | 0.01 | 1.5 | 0.653 | 0.007 ##### | 0.60 | 0.264 | 0.003 ##### | 0.45 | 0.193 | 0.002 ##### | 0.45 | 0.193 | 0.002 ##### | 0 DL |
| 1,2,3,4,7,8,9-HpC | 0.01 | 0.25 J | 0.109 J | 0.001 ##### | 0.20 | 0.088 | 0.001 ##### | 0.07 J | 0.030 J | 0.000 ##### | 0.07 J | 0.030 J | 0.000 ##### | 0 DL |
| OCDF | 0.001 | 0.5 | 0.218 | 0 ##### | 0.50 | 0.220 | 0 ##### | 0.13 J | 0.056 J | 0 ##### | 0.13 J | 0.056 J | 0 ##### | 0 DL |
| EPA TEQ Load (mg/day) | | | | 0.48 0.49 | | | | 0.14 0.14 | | | 0.14 0.14 | | | |
| Ave. of 3 runs (mg TEQ/day) | | Sum of 2 units: | | | | | | | | | | | | |
| <DL=0: | | 0.25 | | | | | | | | | | | | |
| <DL=1/2DL: | | 0.26 | | | | | | | | | | | | |
| <DL=DL: | | 0.26 | | | | | | | | | | | | |

Test Conditions

| | | | |
|--|--------|--------|--------|
| sample volume (dscf) | 172.16 | 157.02 | 157.34 |
| Ave. stack volumetric flowrat (dscf/min) | 52,010 | 47,920 | 46,960 |

Spokane Municipal Incinerator - Air Emissions (1991) (page 19 of 27)

| | | | | | | | | | | | | | | | | |
|-----------------------------|--------------------------------------|--------------------------|------------------------|---------------------|---------------|----------------|--------------------------|------------------------|---------------------|-------------|---------------|--------------------------|------------------------|---------------------|----------------|-------------|
| Facility | Spokane Waste-to-Energy Facility | | | | | | | | | | | | | | | |
| Sample Name | Unit 2 Air Emissions, November, 1991 | | | | | | | | | | | | | | | |
| Lab | Triangle Laboratories, Inc. | | | | | | | | | | | | | | | |
| Sample ID | Run 1 | | | | | | | | | | | | | | | |
| Lab ID | Project No: 5887 Unit 2 FF OUTLET | | | | | | | | | | | | | | | |
| Date | November, 1991 | | | | | | | | | | | | | | | |
| Congener | TEF | Value (ng/sampl e) | Value (mg/day Q) | TEQ (mg/day <DL= | 0 | DL | Value (ng/sampl e) | Value (mg/day Q) | TEQ (mg/day <DL= | 0 | DL | Value (ng/sampl e) | Value (mg/day Q) | TEQ (mg/day <DL= | 0 | DL |
| 2,3,7,8-TCDD | 1 | 0.02 U | 0.009 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 0.009 | 0.01 U | 0.004 U | 0.000 ##### | 0.01 U | 0.009 U | 0.000 ##### | 0.01 U | 0.004 U | 0.000 ##### |
| 1,2,3,7,8-PCDD | 0.5 | 0.02 U | 0.009 U | 0.000 ##### | 0.03 U | 0.013 U | 0.000 0.007 | 0.02 U | 0.009 U | 0.000 ##### | 0.02 U | 0.013 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 ##### |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.04 U | 0.018 U | 0.000 ##### | 0.04 U | 0.017 U | 0.000 0.002 | 0.03 U | 0.013 U | 0.000 ##### | 0.03 U | 0.013 U | 0.000 ##### | 0.03 U | 0.013 U | 0.000 ##### |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.04 | 0.018 | 0.002 ##### | 0.03 | 0.013 | 0.001 0.001 | 0.02 | 0.009 | 0.001 ##### | 0.02 | 0.009 | 0.001 ##### | 0.02 | 0.009 | 0.001 ##### |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.04 | 0.018 | 0.002 ##### | 0.05 | 0.022 | 0.002 0.002 | 0.02 U | 0.009 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 ##### |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.53 | 0.237 | 0.002 ##### | 0.18 | 0.078 | 0.001 0.001 | 0.15 J | 0.064 J | 0.001 ##### | 0.15 J | 0.064 J | 0.001 ##### | 0.15 J | 0.064 J | 0.001 ##### |
| OCDD | 0.001 | 1.9 | 0.851 | 0.001 ##### | 0.48 J | 0.209 J | 0.000 0.000 | 0.43 | 0.183 | 0.000 ##### | 0.43 | 0.183 | 0.000 ##### | 0.43 | 0.183 | 0.000 ##### |
| 2,3,7,8-TCDF | 0.1 | 0.02 | 0.009 | 0.001 ##### | 0.02 | 0.009 | 0.001 0.001 | 0.02 | 0.009 | 0.001 ##### | 0.02 | 0.009 | 0.001 ##### | 0.02 | 0.009 | 0.001 ##### |
| 1,2,3,7,8-PCDF | 0.05 | 0.03 | 0.013 | 0.001 ##### | 0.03 | 0.013 | 0.001 0.001 | 0.01 U | 0.004 U | 0.000 ##### | 0.01 U | 0.004 U | 0.000 ##### | 0.01 U | 0.004 U | 0.000 ##### |
| 2,3,4,7,8-PCDF | 0.5 | 0.04 J | 0.018 J | 0.009 ##### | 0.05 | 0.022 | 0.011 0.011 | 0.04 J | 0.017 J | 0.009 ##### | 0.04 J | 0.017 J | 0.009 ##### | 0.04 J | 0.017 J | 0.009 ##### |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.09 J | 0.040 J | 0.004 ##### | 0.1 J | 0.043 J | 0.004 0.004 | 0.07 J | 0.030 J | 0.003 ##### | 0.07 J | 0.030 J | 0.003 ##### | 0.07 J | 0.030 J | 0.003 ##### |
| 1,2,3,6,7,8-HxCDD | 0.1 | 0.04 | 0.018 | 0.002 ##### | 0.04 | 0.017 | 0.002 0.002 | 0.02 | 0.009 | 0.001 ##### | 0.02 | 0.009 | 0.001 ##### | 0.02 | 0.009 | 0.001 ##### |
| 2,3,4,6,7,8-HxCDD | 0.1 | 0.05 | 0.022 | 0.002 ##### | 0.05 | 0.022 | 0.002 0.002 | 0.05 | 0.021 | 0.002 ##### | 0.05 | 0.021 | 0.002 ##### | 0.05 | 0.021 | 0.002 ##### |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.02 U | 0.009 U | 0.000 ##### | 0.03 U | 0.013 U | 0.000 0.001 | 0.02 U | 0.009 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 ##### | 0.02 U | 0.009 U | 0.000 ##### |
| 1,2,3,4,6,7,8-HpC | 0.01 | 0.15 | 0.067 | 0.001 ##### | 0.13 | 0.057 | 0.001 0.001 | 0.08 | 0.034 | 0.000 ##### | 0.08 | 0.034 | 0.000 ##### | 0.08 | 0.034 | 0.000 ##### |
| 1,2,3,4,7,8,9-HpC | 0.01 | 0.03 U | 0.013 U | 0.000 ##### | 0.04 U | 0.017 U | 0.000 0.000 | 0.02 | 0.009 | 0.000 ##### | 0.02 | 0.009 | 0.000 ##### | 0.02 | 0.009 | 0.000 ##### |
| OCDF | 0.001 | 0.1 J | 0.045 J | 0 ##### | 0.06 | 0.026 | 0 0.000 | 0.07 J | 0.030 J | 0 ##### | 0.07 J | 0.030 J | 0 ##### | 0.07 J | 0.030 J | 0 ##### |
| EPA TEQ Load (mg/day) | | | | 0.026 ##### | | | 0.026 0.044 | | | | | | | | 0.017 ##### | |
| Ave. of 3 runs (mg TEQ/day) | | | | | | | | | | | | | | | | |
| <DL=0: | | | | | 0.023 | | | | | | | | | | | |
| <DL=1/2DL: | | | | | 0.031 | | | | | | | | | | | |
| <DL=DL: | | | | | 0.039 | | | | | | | | | | | |

Test Conditions

| | | | |
|---|--------|--------|--------|
| sample volume (dscf) | 152.91 | 160.04 | 148.89 |
| Ave. stack volumetric flowrat (dscf/min) | 47,580 | 48,330 | 43,970 |

Tacoma City Light Steam Plant No. 2 (page 20 of 27)

Facility
Sample Name
Lab
Sample ID
Date

Tacoma City Light Steam Plant No. 2

Tacoma City Light Steam Plant No. 2

| Sample Name Lab Sample ID Date | Tacoma City Light Steam Plant No. 2 | | | | | | | | | | Tacoma City Light Steam Plant No. 2 | | | | | | | | | | | | | |
|---|-------------------------------------|-----------------|-------|-------|--------------------|-----------------|-------|-------|--------------------|-----------------|-------------------------------------|------|-------------------|-----------------|-------|--------|-------------------|-----------------|-------|-------|-------|------------|-------|------|
| | Twin City Testing | | | | | | | | | | Twin City Testing | | | | | | | | | | | | | |
| | Run 1 10/8-9/90 | | | | Run 2 10/8-9/90 | | | | Run 3 10/8-9/90 | | | | Run 1 8/2/91 | | | | Run 2 8/2/91 | | | | | | | |
| | Value (ng/min) | TEQ (ng/min) | Q | <DL= | Value (ng/min) | TEQ (ng/min) | Q | <DL= | Value (ng/min) | TEQ (ng/min) | Q | <DL= | Value (ng/min) | TEQ (ng/min) | Q | <DL= | Value (ng/min) | TEQ (ng/min) | Q | <DL= | | | | |
| Congener | TEF | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 0 | DL | | | | | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 13.2 | 13.20 | 13.20 | 20.2 | 20.20 | 20.20 | | 7.4 | 7.40 | 7.40 | | 7.53 | U | 0.000 | 7.530 | 3.59 | U | 0.000 | 3.590 | 3.88 | U | 0.000 | #### |
| 1,2,3,7,8-PCDD | 0.5 | 27.2 | U | 0.00 | 13.60 | 53.4 | 26.70 | 26.70 | 17.5 | 8.75 | 8.75 | | 3.22 | U | 0.000 | 1.610 | 6.21 | U | 0.000 | 3.105 | 2.31 | U | 0.000 | #### |
| 1,2,3,4,7,8-HxCDD | 0.1 | 24.6 | 2.46 | 2.46 | 51.5 | 5.15 | 5.15 | | 19.3 | 1.93 | 1.93 | | 1.85 | U | 0.000 | 0.185 | 2.21 | U | 0.000 | 0.221 | 2.24 | U | 0.000 | #### |
| 1,2,3,6,7,8-HxCDD | 0.1 | 35.1 | 3.51 | 3.51 | 71.8 | 7.18 | 7.18 | | 33.1 | 3.31 | 3.31 | | 2.33 | U | 0.000 | 0.233 | 2.28 | 0.228 | 0.228 | 5.1 | U | 0.000 | #### | |
| 1,2,3,7,8,9-HxCDD | 0.1 | 27.2 | 2.72 | 2.72 | 41.4 | 4.14 | 4.14 | | 17.5 | 1.75 | 1.75 | | 2.67 | U | 0.000 | 0.267 | 4.28 | U | 0.000 | 0.428 | 1.9 | 0.190 | 0.190 | #### |
| 1,2,3,4,6,7,8-HpC | 0.01 | 219.2 | 2.19 | 2.19 | 469.4 | 4.69 | 4.69 | | 331.1 | 3.31 | 3.31 | | 22.6 | 0.226 | 0.226 | 23.5 | 0.235 | 0.235 | 19.0 | 0.190 | 0.190 | #### | | |
| OCDD | 0 | 377.1 | 0.38 | 0.38 | 487.8 | 0.49 | 0.49 | | 588.6 | 0.59 | 0.59 | | 116.3 | 0.116 | 0.116 | 124.2 | 0.124 | 0.124 | 95.2 | 0.095 | 0.095 | #### | | |
| 2,3,7,8-TCDF | 0.1 | 149.1 | 14.91 | 14.91 | 294.5 | 29.45 | 29.45 | | 101.2 | 10.12 | 10.12 | | 13 | 1.300 | 1.300 | 15.2 | 1.520 | 1.520 | 12.2 | 1.220 | 1.220 | #### | | |
| 1,2,3,7,8-PCDF | 0.05 | 105.2 | 5.26 | 5.26 | 165.7 | 8.29 | 8.29 | | 90.1 | 4.51 | 4.51 | | 3.01 | U | 0.000 | 0.151 | 10.35 | U | 0.000 | 0.518 | 2.24 | U | 0.000 | #### |
| 2,3,4,7,8-PCDF | 0.5 | 149.1 | 74.55 | 74.55 | 239.3 | ##### | ##### | | 128.8 | 64.40 | 64.40 | | 3.22 | U | 0.000 | 1.610 | 3.79 | U | 0.000 | 1.895 | 1.97 | U | 0.000 | #### |
| 1,2,3,4,7,8-HxCDD | 0.1 | 105.2 | 10.52 | 10.52 | 71.8 | U | 0.00 | 7.18 | 44.1 | 4.41 | 4.41 | | 1.16 | U | 0.000 | 0.116 | 1.38 | U | 0.000 | 0.138 | 2.92 | U | 0.000 | #### |
| 1,2,3,6,7,8-HxCDD | 0.1 | 114 | 11.40 | 11.40 | 84.7 | U | 0.00 | 8.47 | 51.5 | U | 0.00 | 5.15 | 0.62 | U | 0.000 | 0.062 | 2.21 | U | 0.000 | 0.221 | 1.22 | U | 0.000 | #### |
| 2,3,4,6,7,8-HxCDD | 0.1 | 149.1 | 14.91 | 14.91 | 119.6 | 11.96 | 11.96 | | 73.6 | 7.36 | 7.36 | | 0.89 | U | 0.000 | 0.089 | 0.76 | U | 0.000 | 0.076 | 1.36 | U | 0.000 | #### |
| 1,2,3,7,8,9-HxCDD | 0.1 | 13.2 | 1.32 | 1.32 | 22.1 | 2.21 | 2.21 | | 13.8 | 1.38 | 1.38 | | 2.39 | 0.239 | 0.239 | 1.59 | 0.159 | 0.159 | 2.45 | 0.245 | 0.245 | #### | | |
| 1,2,3,4,6,7,8-HpC | 0.01 | 420.9 | 4.21 | 4.21 | 202.5 | 2.03 | 2.03 | | 14.7 | U | 0.00 | 0.15 | 5.2 | U | 0.000 | 0.052 | 5.11 | U | 0.000 | 0.051 | 6.8 | U | 0.000 | #### |
| 1,2,3,4,7,8,9-HpC | 0.01 | 29.8 | 0.30 | 0.30 | 28.5 | U | 0.00 | 0.29 | 119.6 | 1.20 | 1.20 | | 3.49 | U | 0.000 | 0.035 | 1.86 | U | 0.000 | 0.019 | 0.95 | U | 0.000 | #### |
| OCDF | 0 | 75.4 | 0.08 | 0.08 | 61.7 | 0.06 | 0.06 | | 31.3 | 0.03 | 0.03 | | 4.79 | U | 0.000 | 0.005 | 7.59 | 0.008 | 0.008 | 0.000 | 6.26 | U | 0.000 | #### |
| EPA TEQ (ng/min) | | ##### ##### | | | | ##### ##### | | | | ##### ##### | | | | 1.881 ##### | | | | 2.274 12.53 | | | | 1.940 #### | | |
| TEQ Production Rate (mg/d) | | 0.23 | 0.25 | | 0.35 | 0.37 | | | 0.17 | 0.18 | | | ##### | 0.020 | | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | |
| Ave. of 3 runs (mg TEQ/day) | | | | | | | | | | | | | | | | | | | | | | | | |
| <DL=0: | | 0.252 | | | | | | | | | | | | | | 0.0029 | | | | | | | | |
| <DL=1/2DL: | | 0.260 | | | | | | | | | | | | | | | 0.010 | | | | | | | |

Ave. of 3 runs (mg TEQ/day)

<DL=0: 0.252

$\langle DL \rangle = 1/2DL$

0.252
0.260

| |
|--------|
| 0.0029 |
| 0.010 |

Tacoma City Light Steam Plant No. 2 (page 21 of 27)

| Facility Sample Name Lab Sample ID Date | Tacoma City Light Steam Plant No. 2 | | | | | | | | | | | | | | | | | | |
|---|--|----------------------|-------|-------------------------------|----------------------|-------------|--|---------------------------|-------------|------------------------|----------------------|-------------|------------------------|----------------------|-------|------------------------|----------------------|-------|-------|
| | Tacoma City Light Steam Plant No. 2 Twin City Testing | | | | | | Tacoma City Light Steam Plant No. 2 Twin City Testing | | | | | | | | | | | | |
| | Run 1 December 11-12, 1991 | | | Run 2 December 11-12, 1991 | | | Run 3 December 11-12, 1991 | | | Run 1 3/20-23/92 | | | Run 2 3/20-23/92 | | | Run 3 3/20-23/92 | | | |
| | Value (ng/min)) | TEQ (ng/min) Q | <DL= | Value (ng/min)) | TEQ (ng/min) Q | <DL= | Value (ng/min)) | TEQ (ng/min) <DL= Q | 0 DL | Value (ng/min)) | TEQ (ng/min) Q | <DL= | Value (ng/min)) | TEQ (ng/min) Q | <DL= | Value (ng/min)) | TEQ (ng/min) Q | <DL= | |
| Congener TEF | | | | | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 8.72 U | 0.000 | 8.720 | 4.94 | 4.940 | 4.940 | 102.7 U | 0.000 | ##### | 33.4 U | 0.000 | ##### | 18.3 U | 0.000 | ##### | 10.8 U | 0.000 | ##### |
| 1,2,3,7,8-PCDD | 0.5 | 6.85 | 3.425 | 3.425 | 3.99 U | 0.000 | 1.995 | 8.35 | 4.175 | 4.175 | 12 | 6.000 | 6.000 | 12.6 | 6.300 | ##### | 7.81 | 3.905 | ##### |
| 1,2,3,4,7,8-HxCDD | 0.1 | 2.99 | 0.299 | 0.299 | 2.85 U | 0.000 | 0.285 | 2.95 | 0.295 | 0.295 | 11.4 | 1.140 | 1.140 | 6.95 | 0.695 | ##### | 7.81 | 0.781 | ##### |
| 1,2,3,6,7,8-HxCDD | 0.1 | 11.8 | 1.180 | 1.180 | 5.38 | 0.538 | 0.538 | 8.35 | 0.835 | 0.835 | 19.6 | 1.960 | 1.960 | 13.9 | 1.390 | ##### | 16.2 | 1.620 | ##### |
| 1,2,3,7,8,9-HxCDD | 0.1 | 5.36 | 0.536 | 0.536 | 3.42 U | 0.000 | 0.342 | 4.49 U | 0.000 | 0.449 | 13.2 | 1.320 | 1.320 | 13.3 | 1.330 | ##### | 14.4 | 1.440 | ##### |
| 1,2,3,4,6,7,8-HpC | 0.01 | 68.5 | 0.685 | 0.685 | 48.1 | 0.481 | 0.481 | 50.7 | 0.507 | 0.507 | 132.5 | 1.325 | 1.325 | 107.4 | 1.074 | ##### | 126.1 | 1.261 | ##### |
| OCDD | 0 | 249.2 | 0.249 | 0.249 | 202.5 | 0.203 | 0.203 | 205.5 | 0.206 | 0.206 | 378.5 | 0.379 | 0.379 | 297.0 | 0.297 | ##### | 336.3 | 0.336 | ##### |
| 2,3,7,8-TCDF | 0.1 | 43 U | 0.000 | 4.300 | 41.1 U | 0.000 | 4.110 | 102.7 U | 0.000 | 10.270 | 30.9 U | 0.000 | 3.090 | 12.0 | 1.200 | ##### | 30 U | 0.000 | ##### |
| 1,2,3,7,8-PCDF | 0.05 | 18.7 | 0.935 | 0.935 | 14.6 | 0.730 | 0.730 | 41.7 | 2.085 | 2.085 | 15.8 U | 0.000 | 0.790 | 25.3 U | 0.000 | ##### | 51.6 U | 0.000 | ##### |
| 2,3,4,7,8-PCDF | 0.5 | 30.5 U | 0.000 | ##### | 18.4 | 9.200 | 9.200 | 51.4 | ##### | 25.700 | 11.4 | 5.700 | 5.700 | 12.6 | 6.300 | ##### | 11.4 | 5.700 | ##### |
| 1,2,3,4,7,8-HxCDD | 0.1 | 8.72 | 0.872 | 0.872 | 6.20 | 0.620 | 0.620 | 14.1 | 1.410 | 1.410 | 7.57 U | 0.000 | 0.757 | 6.26 | 0.626 | ##### | 10.2 | 1.020 | ##### |
| 1,2,3,6,7,8-HxCDD | 0.1 | 9.350 | 0.935 | 0.935 | 5.57 | 0.557 | 0.557 | 13.5 | 1.350 | 1.350 | 8.2 U | 0.000 | 0.820 | 3.92 | 0.392 | ##### | 13.2 U | 0.000 | ##### |
| 2,3,4,6,7,8-HxCDD | 0.1 | 2.18 U | 0.000 | 0.218 | 1.14 U | 0.000 | 0.114 | 2.76 U | 0.000 | 0.276 | 42.9 U | 0.000 | 4.290 | 5.88 U | 0.000 | ##### | 21.6 U | 0.000 | ##### |
| 1,2,3,7,8,9-HxCDD | 0.1 | 8.72 | 0.872 | 0.872 | 5.63 | 0.563 | 0.563 | 12.8 | 1.280 | 1.280 | 11.4 U | 0.000 | 1.140 | 5.24 | 0.524 | ##### | 9.01 | 0.901 | ##### |
| 1,2,3,4,6,7,8-HpC | 0.01 | 13.7 | 0.137 | 0.137 | 18.4 | 0.184 | 0.184 | 17.3 | 0.173 | 0.173 | 24.6 | 0.246 | 0.246 | 22.7 | 0.227 | ##### | 21.6 | 0.216 | ##### |
| 1,2,3,4,7,8,9-HpC | 0.01 | 6.85 U | 0.000 | 0.069 | 4.56 U | 0.000 | 0.046 | 3.72 U | 0.000 | 0.037 | 5.61 U | 0.000 | 0.056 | 7.58 U | 0.000 | ##### | 10.2 U | 0.000 | ##### |
| OCDF | 0 | 15.0 | 0.015 | 0.015 | 0.000 | 20.9 | 0.021 | 0.021 | 19.3 | 0.019 | 0.019 | 17.7 | 0.018 | 0.018 | 0.000 | #####[REDACTED] | 14.5 | 0.015 | ##### |
| EPA TEQ (ng/min) | | | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | 20.37 | ##### | | 17.19 | ##### | |
| TEQ Production Rate (n) | | 0.015 | 0.056 | | 0.026 | 0.036 | | 0.055 | 0.219 | | 0.026 | 0.090 | | 0.029 | ##### | | 0.025 | ##### | |
| Ave. of 3 runs (mg TEQ/ | | | | | | | | | | | | | | | | | | | |
| <DL=0: | | | | | | | | | | | | | | | | | | | |
| <DL=1/2DL: | | | | | | | | | | | | | | | | | | | |
| <DL=DL: | | | | | | | | | | | | | | | | | | | |

| |
|-------|
| 0.032 |
| 0.068 |
| 0.103 |

| |
|-------|
| 0.027 |
| 0.047 |
| 0.067 |

Veteran's Administrative Medical Center

| Facility Lab | | Veteran's Administrative Medical Center | | | Medical Waste Incinerator | | | | | |
|--------------------------------|-------|---|---------|------------|---------------------------|---------|------------|---------------------|---------|------------|
| | | Run 1 1/23-25/95 | | | Run 2 1/23-25/95 | | | Run 3 1/23-25/95 | | |
| Sample Name | | ng/dscm | ng/min | ng TEQ/min | ng/dscm | ng/min | ng TEQ/min | ng/dscm | ng/min | ng TEQ/min |
| Date | | | | | | | | | | |
| Units | | | | | | | | | | |
| Congener | TEF | | | | | | | | | |
| 2,3,7,8-TCDD | 1 | 0.49 | 34.30 | 34.30 | 0.068 | 5.30 | 5.30 | 0.051 | 3.81 | 3.81 |
| 1,2,3,7,8-PCDD | 0.5 | 0.279 | 19.53 | 9.76 | 0.494 | 38.51 | 19.26 | 0.337 | 25.16 | 12.58 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 0.472 | 33.04 | 3.30 | 0.658 | 51.30 | 5.13 | 0.569 | 42.49 | 4.25 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 1.61 | 112.69 | 11.27 | 1.87 | 145.78 | 14.58 | 1.48 | 110.51 | 11.05 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 0.623 | 43.61 | 4.36 | 0.926 | 72.19 | 7.22 | 0.696 | 51.97 | 5.20 |
| 1,2,3,4,6,7,8-HpC _E | 0.01 | 15 | 1049.93 | 10.50 | 16.7 | 1301.91 | 13.02 | 13.7 | 1023.00 | 10.23 |
| OCDD | 0.001 | 51.5 | 3604.77 | 3.60 | 37 | 2884.46 | 2.88 | 29.5 | 2202.80 | 2.20 |
| 2,3,7,8-TCDF | 0.1 | 0.451 | 31.57 | 3.16 | 0.473 | 36.87 | 3.69 | 0.548 | 40.92 | 4.09 |
| 1,2,3,7,8-PCDF | 0.05 | 0.945 | 66.15 | 3.31 | 1.23 | 95.89 | 4.79 | 0.928 | 69.29 | 3.46 |
| 2,3,4,7,8-PCDF | 0.5 | 2.79 | 195.29 | 97.64 | 3.29 | 256.48 | 128.24 | 2.11 | 157.56 | 78.78 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 3.22 | 225.39 | 22.54 | 4.53 | 353.15 | 35.32 | 3.16 | 235.96 | 23.60 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 4.08 | 285.58 | 28.56 | 5.76 | 449.04 | 44.90 | 4.01 | 299.43 | 29.94 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 11.6 | 811.95 | 81.19 | 14.4 | 1122.60 | 112.26 | 10.8 | 806.45 | 80.64 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 1.95 | 136.49 | 13.65 | 2.67 | 208.15 | 20.81 | 2.11 | 157.56 | 15.76 |
| 1,2,3,4,6,7,8-HpC _E | 0.01 | 27.9 | 1952.87 | 19.53 | 39.1 | 3048.18 | 30.48 | 31.6 | 2359.61 | 23.60 |
| 1,2,3,4,7,8,9-HpC _E | 0.01 | 5.8 | 405.97 | 4.06 | 7.82 | 609.64 | 6.10 | 5.9 | 440.56 | 4.41 |
| OCDF | 0.001 | 30.1 | 2106.86 | 2.11 | 28.8 | 2245.21 | 2.25 | 27.4 | 2045.99 | 2.05 |

EPA TEQ (ng/min) 352.84 456.23 315.6

TEQ load (mg/day) 0.508 0.657 0.455

Average load from 3 runs (mg/day):

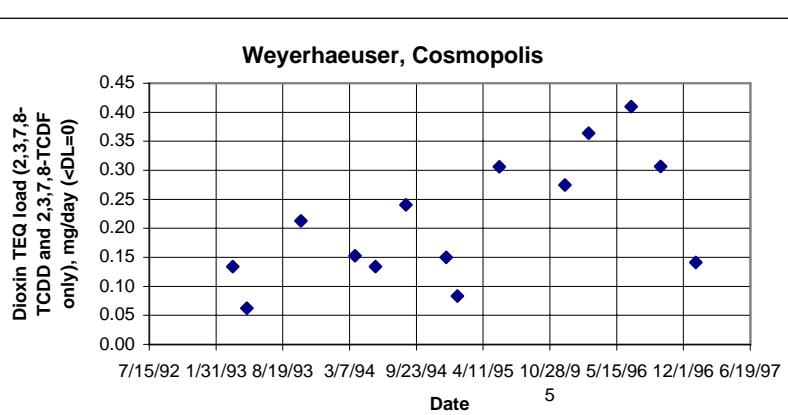
| | |
|-----------|-------|
| <DL=0 | 0.540 |
| <DL=1/2DL | 0.540 |
| <DL=DL | 0.540 |

Weyerhaeuser Paper Company, Cosmopolis

| Facility Lab | Weyerhaeuser Paper Company, Cosmopolis | | | | | | |
|---------------------|--|--------|-----------|-------------------------------------|--------|---------|--------|
| Sample Name | 001-comp. 228241 5/29-30/1991 | | | 002-comp. 238246 5/29-30/1991 | | | |
| Sample Number | TEQ pg/L | | | TEQ pg/L | | | |
| Date | pg/L | Q | (<DL=0) | pg/L | Q | (<DL=0) | |
| Units | | | | | | | |
| Congener | TEF | | | | | | |
| 2,3,7,8-TCDD | 1 | 2 U | 0 | 2 | 2.1 U | 0 | 2.1 |
| 1,2,3,7,8-PCDD | 0.5 | 1.4 U | 0 | 0.7 | 1.4 U | 0 | 0.7 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 1.1 U | 0 | 0.11 | 1.6 U | 0 | 0.16 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 1.1 U | 0 | 0.11 | 2.9 U | 0 | 0.29 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 1.5 U | 0 | 0.15 | 1.7 U | 0 | 0.17 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 10 U | 0 | 0.1 | 6.7 U | 0 | 0.067 |
| OCDD | 0.001 | 70 U | 0 | 0.07 | 40 U | 0 | 0.04 |
| 2,3,7,8-TCDF | 0.1 | 3.7 U | 0 | 0.37 | 2.1 U | 0 | 0.21 |
| 1,2,3,7,8-PCDF | 0.05 | 0.25 U | 0 | 0.0125 | 1 U | 0 | 0.05 |
| 2,3,4,7,8-PCDF | 0.5 | 1.8 U | 0 | 0.9 | 2 U | 0 | 1 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 1.1 U | 0 | 0.11 | 0.85 U | 0 | 0.085 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 1.1 U | 0 | 0.11 | 1 U | 0 | 0.1 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 4.9 U | 0 | 0.49 | 5.4 U | 0 | 0.54 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 2 U | 0 | 0.2 | 1.6 U | 0 | 0.16 |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 3.6 U | 0 | 0.036 | 3.9 U | 0 | 0.039 |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 1.5 U | 0 | 0.015 | 3.5 U | 0 | 0.035 |
| OCDF | 0.001 | 4.6 U | 0 | 0.0046 | 6.6 U | 0 | 0.0066 |
| EPA TEQ (pg/L) | | | 0 | 5.4881 | | 0 | 5.7526 |
| Flow (MGD) | | 32.22 | 32.22 | | 4.5 | 4.5 | |
| TEQ load (mg/D) | | 0.000 | 0.669 | | 0.000 | 0.098 | |
| <DL=0 | | 0.000 | <DL=0 | | 0.000 | | |
| <DL=1/2DL | | 0.335 | <DL=1/2DL | | 0.049 | | |
| <DL=DL | | 0.669 | <DL=DL | | 0.098 | | |

Weyerhaeuser, Cosmopolis - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | 2,3,7,8-TCDF TEF = 0.1 | | Flow (MGD) | TEQ Load (mg/day) <DL= 1/2 | | | | |
|---|-------------------------|----------------------------|---------------------------|----------------------------|-------------------|-------------------------------------|-------|------|------|------|
| | Value (ppq) | TEQ (ppq) <DL = 0 DL | Value (ppq) | TEQ (ppq) <DL = 0 DL | | 0 | DL | DL | | |
| Weyerhaeuser, Cosmopolis - "Pond D Effluent" | | | | | | | | | | |
| 3/22/93 | 1 U | 0 | 1 | 15 | 1.5 | 1.5 | 23.6 | 0.13 | 0.18 | 0.22 |
| 5/3/93 | 3 U | 0 | 3 | 7 | 0.7 | 0.7 | 23.5 | 0.06 | 0.20 | 0.33 |
| 10/12/93 | 1 U | 0 | 1 | 21 | 2.1 | 2.1 | 26.8 | 0.21 | 0.26 | 0.31 |
| 12/21/94 | 1 U | 0 | 1 | 16 | 1.6 | 1.6 | 24.8 | 0.15 | 0.20 | 0.24 |
| 3/23/94 | 2 U | 0 | 2 | 17 | 1.7 | 1.7 | 23.7 | 0.15 | 0.24 | 0.33 |
| 5/24/94 | 2 U | | 2 | 16 | 1.6 | 1.6 | 22.1 | 0.13 | 0.22 | 0.30 |
| 8/23/94 | 6 U | 0 | 6 | 25 | 2.5 | 2.5 | 25.4 | 0.24 | 0.53 | 0.82 |
| 1/24/95 | 1 U | 0 | 1 | 10 | 1 | 1 | 22 | 0.08 | 0.12 | 0.17 |
| 5/30/95 | 2 U | 0 | 2 | 34 | 3.4 | 3.4 | 23.8 | 0.31 | 0.40 | 0.49 |
| 12/12/95 | 1 U | 0 | 1 | 28 | 2.8 | 2.8 | 25.9 | 0.27 | 0.32 | 0.37 |
| 2/21/96 | 1 U | 0 | 1 | 42 | 4.2 | 4.2 | 22.9 | 0.36 | 0.41 | 0.45 |
| 6/27/96 | 3 U | 0 | 3 | 46 | 4.6 | 4.6 | 23.52 | 0.41 | 0.54 | 0.68 |
| 9/24/96 | 3 U | 0 | 3 | 40 | 4 | 4 | 20.27 | 0.31 | 0.42 | 0.54 |
| 1/7/97 | 1 U | 0 | 1 | 15 | 1.5 | 1.5 | 24.88 | 0.14 | 0.19 | 0.24 |
| | | | | | | | | 0.06 | 0.12 | 0.17 |
| | | | | | | | | 0.21 | 0.30 | 0.39 |
| | | | | | | | | 0.41 | 0.54 | 0.82 |
| | | | | | | | | 14 | | |
| Low | | | | | | | | | | |
| Average | | | | | | | | | | |
| High | | | | | | | | | | |
| Count | | | | | | | | | | |



Weyerhaeuser, Longview - Air Emissions

Facility
 Sample Name
 Lab
 Sample ID
 Date

Weyerhaeuser Longview

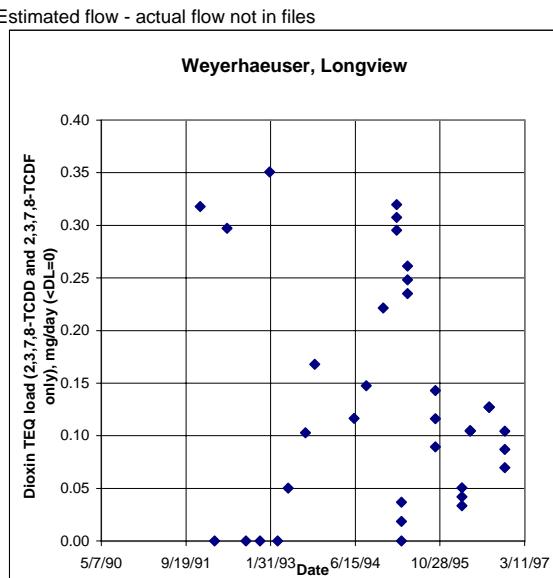
| Congener | TEF | CPC #3 Stack Weyerhaeuser | | | |
|-----------------------|-------|------------------------------|------------|----------------------|--------|
| | | Test #2 (fuel = wood + coal) | | 7/25/90 | |
| | | Value (pg/sample) | Value Q | TEQ (mg/day) <DL= | |
| | | | | 0 | 1/2 DL |
| | | | | DL | |
| 2,3,7,8-TCDD | 1 | 1.4 U | 0.005 U | 0.000 | 0.005 |
| 1,2,3,7,8-PCDD | 0.5 | 2.3 U | 0.008 U | 0.000 | 0.004 |
| 1,2,3,4,7,8-HxCDD | 0.1 | 15 U | 0.054 U | 0.000 | 0.005 |
| 1,2,3,6,7,8-HxCDD | 0.1 | 15 U | 0.054 U | 0.000 | 0.005 |
| 1,2,3,7,8,9-HxCDD | 0.1 | 15 U | 0.054 U | 0.000 | 0.005 |
| 1,2,3,4,6,7,8-HpCDD | 0.01 | 43 | 0.156 | 0.002 | 0.002 |
| OCDD | 0.001 | 370 | 1.342 | 0.001 | 0.001 |
| 2,3,7,8-TCDF | 0.1 | 71 | 0.258 | 0.026 | 0.026 |
| 1,2,3,7,8-PCDF | 0.05 | 14 | 0.051 | 0.003 | 0.003 |
| 2,3,4,7,8-PCDF | 0.5 | 26 | 0.094 | 0.047 | 0.047 |
| 1,2,3,4,7,8-HxCDF | 0.1 | 31 | 0.112 | 0.011 | 0.011 |
| 1,2,3,6,7,8-HxCDF | 0.1 | 30 | 0.109 | 0.011 | 0.011 |
| 2,3,4,6,7,8-HxCDF | 0.1 | 2 U | 0.007 U | 0.000 | 0.001 |
| 1,2,3,7,8,9-HxCDF | 0.1 | 21 | 0.076 | 0.008 | 0.008 |
| 1,2,3,4,6,7,8-HpCDF | 0.01 | 2.7 U | 0.010 U | 0.000 | 0.000 |
| 1,2,3,4,7,8,9-HpCDF | 0.01 | 2.7 U | 0.010 U | 0.000 | 0.000 |
| OCDF | 0.001 | 10 | 0.036 | 0 | 0.000 |
| EPA TEQ Load (mg/day) | | | | 0.11 | 0.12 |
| | | | | 0.13 | |

Test Conditions

sample volume (dscf) 80.41
 Ave. stack volumetric flowrate
 (dscf/min) 202,548

Weyerhaeuser, Longview - Wastewater (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | | 2,3,7,8-TCDF TEF = 0.1 | | | Flow (MGD) | TEQ Load (mg/day) <DL= | | | Comment |
|--|-----------------------------|--------------------|------|---------------------------|--------------------|------|---------------|------------------------------|------|------|---------|
| | Value (ppq) | TEQ (ppq) <DL = | 0 DL | Value (ppq) | TEQ (ppq) <DL = | 0 DL | | 0 | DL | DL | |
| Weyerhaeuser, Longview - "Secondary effluent" | | | | | | | | | | | |
| 12/12/91 | 3 U | 0 | 3 | 14 | 1.4 | 1.4 | 60.0 | 0.32 | 0.66 | 1.00 | |
| 3/5/92 | 3 U | 0 | 3 | 3 U | 0 | 0.3 | 58.9 | 0.00 | 0.37 | 0.74 | |
| 5/19/92 | 4 U | 0 | 4 | 14 | 1.4 | 1.4 | 56.1 | 0.30 | 0.72 | 1.15 | |
| 9/8/92 | 1 U | 0 | 1 | 1 U | 0 | 0.1 | 60.6 | 0.00 | 0.13 | 0.25 | |
| 11/30/92 | 3 U | 0 | 3 | 2 U | 0 | 0.2 | 60.0 | 0.00 | 0.36 | 0.73 | |
| 1/25/93 | 1 U | 0 | 1 | 14 | 1.4 | 1.4 | 66.2 | 0.35 | 0.48 | 0.60 | |
| 3/14/93 | 1 U | 0 | 1 | 1 U | 0 | 0.1 | 62.6 | 0.00 | 0.13 | 0.26 | |
| 5/14/93 | 1 U | 0 | 1 | 2 | 0.2 | 0.2 | 66.3 | 0.05 | 0.18 | 0.30 | |
| 8/24/93 | 1 U | 0 | 1 | 4 | 0.4 | 0.4 | 67.9 | 0.10 | 0.23 | 0.36 | |
| 10/19/93 | 1 U | 0 | 1 | 7 | 0.7 | 0.7 | 63.4 | 0.17 | 0.29 | 0.41 | |
| 6/7/94 | 5 U | 0 | 5 | 5 | 0.5 | 0.5 | 61.5 | 0.12 | 0.70 | 1.28 | |
| 8/19/94 | 3 U | 0 | 3 | 6 | 0.6 | 0.6 | 65.0 | 0.15 | 0.52 | 0.89 | |
| 11/26/94 | 4 U | 0 | 4 | 9 | 0.9 | 0.9 | 65.0 | 0.22 | 0.71 | 1.21 | |
| 2/15/95 | 5 U | 0 | 5 | 12 | 1.2 | 1.2 | 65.0 | 0.30 | 0.91 | 1.53 | |
| 2/15/95 | 4 U | 0 | 4 | 13 | 1.3 | 1.3 | 65.0 | 0.32 | 0.81 | 1.30 | |
| 2/15/95 | (Average TEQ of duplicates) | | | | | | | 0.31 | 0.86 | 1.41 | |
| 3/14/95 | 2 U | 0 | 2 | 1.5 | 0.15 | 0.15 | 65.0 | 0.0369 | 0.28 | 0.53 | |
| 3/14/95 | 4 U | 0 | 4 | 4 U | 0 | 0.4 | 65.0 | 0.00 | 0.54 | 1.08 | |
| 3/14/95 | (Average TEQ of duplicates) | | | | | | | 0.02 | 0.41 | 0.81 | |
| 4/19/95 | 2 U | 0 | 2 | 10 | 1 | 1 | 69.0 | 0.26 | 0.52 | 0.78 | |
| 4/19/95 | 3 U | 0 | 3 | 9 | 0.9 | 0.9 | 69.0 | 0.24 | 0.63 | 1.02 | |
| 4/19/95 | (Average TEQ of duplicates) | | | | | | | 0.25 | 0.57 | 0.90 | |
| 9/30/95 | 4 U | 0 | 4 | 8 | 0.8 | 0.8 | 47.2 | 0.14 | 0.50 | 0.86 | |
| 9/30/95 | 4 U | 0 | 4 | 5 | 0.5 | 0.5 | 47.2 | 0.09 | 0.45 | 0.80 | |
| 9/30/95 | (Average TEQ of duplicates) | | | | | | | 0.12 | 0.47 | 0.83 | |
| 3/6/96 | 2 U | 0 | 2 | 2 | 0.2 | 0.2 | 44.4 | 0.03 | 0.20 | 0.37 | |
| 3/6/96 | 2 U | 0 | 2 | 3 | 0.3 | 0.3 | 44.4 | 0.05 | 0.22 | 0.39 | |
| 3/6/96 | (Average TEQ of duplicates) | | | | | | | 0.04 | 0.21 | 0.38 | |
| 4/24/96 | 1 U | 0 | 1 | 6 | 0.6 | 0.6 | 46.1 | 0.10 | 0.19 | 0.28 | |
| 4/24/96 | 1 U | 0 | 1 | 6 | 0.6 | 0.6 | 46.1 | 0.10 | 0.19 | 0.28 | |
| 4/24/96 | (Average TEQ of duplicates) | | | | | | | 0.10 | 0.19 | 0.28 | |
| 8/13/96 | 4 U | 0 | 4 | 7 | 0.7 | 0.7 | 48.0 | 0.13 | 0.49 | 0.85 | |
| 8/13/96 | 2 U | 0 | 2 | 7 | 0.7 | 0.7 | 48.0 | 0.13 | 0.31 | 0.49 | |
| 8/13/96 | (Average TEQ of duplicates) | | | | | | | 0.13 | 0.40 | 0.67 | |
| 11/13/96 | 2 U | 0 | 2 | 4 | 0.4 | 0.4 | 46.0 | 0.07 | 0.24 | 0.42 | |
| 11/13/96 | 2 U | 0 | 2 | 6 | 0.6 | 0.6 | 46.0 | 0.10 | 0.28 | 0.45 | |
| 11/13/96 | (Average TEQ of duplicates) | | | | | | | 0.09 | 0.26 | 0.44 | |
| Low | | | | | | | | 0.00 | 0.00 | 0.00 | |
| Average | | | | | | | | 0.13 | 0.13 | 0.13 | |
| High | | | | | | | | 0.35 | 0.35 | 0.35 | |
| Count | | | | | | | | 21 | | | |



Weyerhaeuser, Longview - Sludge (2,3,7,8-TCDD and 2,3,7,8-TCDF only)

| Date | 2,3,7,8-TCDD TEF = 1 | | 2,3,7,8-TCDF TEF = 0.1 | | 2,3,7,8-TCDD+2,3,7,8-TCDF, only | | |
|--|-------------------------|----------------------------|---------------------------|----------------------------|---|-------|--|
| | Value (ppt) | TEQ (ppt) <DL = 0 DL | Value (ppt) | TEQ (ppt) <DL = 0 DL | Total TEQ (ppt) <DL = 0 1/2 DL DL | | |
| Weyerhaeuser, Longview - "Combined Effluent Sludge" | | | | | | | |
| ##### | 50 | 50 50 | 92 | 9.2 9.2 | 59.2 | 59.2 | |
| 3/5/92 | 22 U | 0 22 | 86 | 8.6 8.6 | 8.6 | 30.6 | |
| 5/19/92 | 5.3 U | 0 5.3 | 140 | 14 14 | 14 | 19.3 | |
| 9/8/92 | 2.7 U | 0 2.7 | 24.1 | 2.41 2.41 | 2.41 | 5.11 | |
| ##### | 2.4 U | 0 2.4 | 38 | 3.8 3.8 | 3.8 | 6.2 | |
| 3/14/93 | 8.74 | 8.74 8.74 | 64.3 | 6.43 6.43 | 15.17 | 15.17 | |
| 5/14/93 | 0.6 U | 0 0.6 | 45.2 | 4.52 4.52 | 4.52 | 5.12 | |
| 8/24/93 | 0.67 U | 0 0.67 | 43.4 | 4.34 4.34 | 4.34 | 5.01 | |
| ##### | 0.49 U | 0 0.49 | 27.3 | 2.73 2.73 | 2.73 | 3.22 | |
| 6/7/94 | 5.1 U | 0 5.1 | 3.5 U | 0 0.35 | 0 | 5.45 | |
| 8/19/94 | 4.83 U | 0 4.83 | 52 | 5.2 5.2 | 5.2 | 10.03 | |
| ##### | 22.4 | 22.4 22.4 | 54.6 | 5.46 5.46 | 27.86 | 27.86 | |
| 2/15/95 | 8 U | 0 8 | 65.7 | 6.57 6.57 | 6.57 | 14.57 | |
| 3/14/95 | 23.4 | 23.4 23.4 | 55.3 | 5.53 5.53 | 28.93 | 28.93 | |
| 4/19/95 | 9.32 | 9.32 9.32 | 42.7 | 4.27 4.27 | 13.59 | 13.59 | |
| 9/30/95 | 4.8 U | 0 4.8 | 114 | 11.4 11.4 | 11.4 | 16.2 | |
| 3/6/96 | 3.9 U | 0 3.9 | 55.5 | 5.55 5.55 | 5.55 | 9.45 | |
| 4/24/96 | 2 U | 0 2 | 47.4 | 4.74 4.74 | 4.74 | 6.74 | |
| 8/13/96 | 3 U | 0 3 | 102 | 10.2 10.2 | 10.2 | 13.2 | |
| ##### | 4.37 U | 0 4.37 | 53.4 | 5.34 5.34 | 5.34 | 9.71 | |
| Mean TEQ (ng/kg) | | | | 11.71 | 15.23 | | |
| Production Rate (Oven-dried tons/day) | | | | 165 | 165 | | |
| TEQ load (mg/day) | | | | 1.76 | 2.02 | 2.28 | |

Citation for mass rate:

Weyerhaeuser Co., 1991. Supplemental Environmental checklist for the Weyerhaeuser Longview Kraft Mill Modernization Project, November 1991.

This number is a predicted estimate.

